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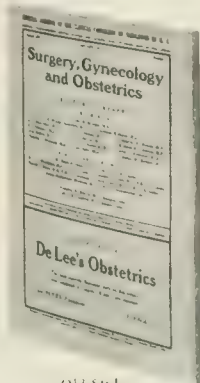
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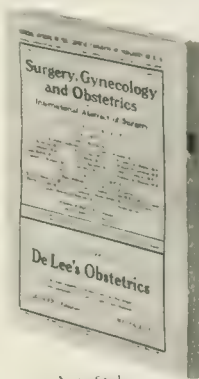
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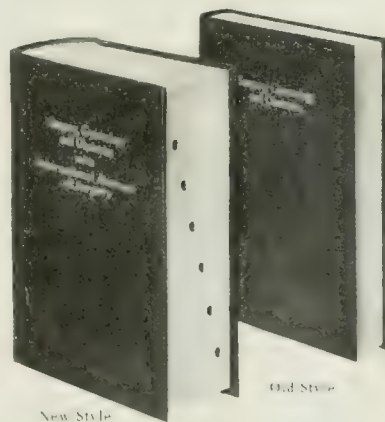
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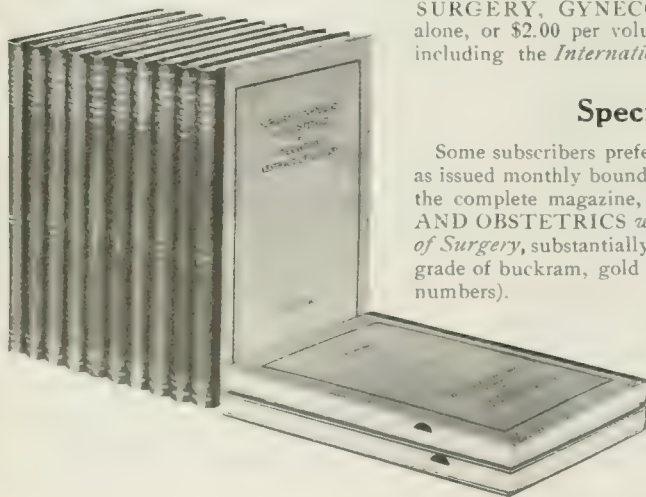
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First, a reciprocal contract between SURGERY, GYNECOLOGY AND OBSTETRICS and the *Journal de Chirurgie*, the leading abstract journal of France, which now abstracts and indexes in French the surgical literature of all countries. From this journal we are to receive abstracts of the surgical literature from the Latin countries.

Second, a similar agreement with the two German publications named above, one of which covers the field of general surgery and the other gynecology and obstetrics, from which sources we are to receive abstracts of the surgical literature of Germany and other countries.

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This plan not only insures comprehensiveness, but with three strong editorial staffs representing the different languages and able to speak authoritatively concerning the contributors and their contributions, it provides a journal which for accuracy and authoritativeness must be superior to any that might be brought forth by one editorial staff attempting to cover all countries and languages.

The journal in its completeness will possess the following scope:

1. A comprehensive index of surgical literature from all sources, arranged anatomically under departments, giving the author's name, subject of communication, and the name and date of the journal in which the article appeared.

2. An abstract of the surgical literature of all countries, prepared by the combined efforts of our French and German contemporaries and our own staff for America and the British Empire. This will include abstracts and reviews of (a) original articles, (b) monographs, (c) books, and (d) clinics.

# INTERNATIONAL ABSTRACT OF SURGERY

MARCH, 1913

## ABSTRACTS OF CURRENT LITERATURE

### GENERAL SURGERY

#### SURGICAL TECHNIQUE

##### ANÆSTHETICS

**Kaerger: Direct Anæsthesia of the Smaller Subcutaneous Veins in Operations on the Hands and Feet** (Ueber die Anwendung der directen Venenanæsthesie bei den kleineren subkutanen Venen zu Operationen an der Hand und am Fuss). *Arch. f. klin. Chir.*, 1912, xcix, 983.

By Surg., Gynec. & Obst.

One hundred and fifty operations on the hands and feet were performed at the University Surgical Clinic and Policlinic in Berlin (Dr. Bier) under direct anæsthesia of the smaller veins. A 30 cc. syringe, with a curved nozzle and needles  $\frac{3}{4}$  to  $1\frac{1}{2}$  mm. in diameter, is necessary, using novocain solution as the anæsthetic. The hand or foot is held high and an elastic bandage applied in spica turns in such a manner as to eliminate the parts for operation. Novocain is then injected under the skin and near the vein, making a wheal over the latter. The skin is then incised for  $\frac{1}{2}$  to 1 cm. and the vein lifted with Dechamp's needle and a silk thread. The vein is tied at its proximal end, and another ligature is placed under the distal end but not tied. The needle is inserted in the distal end of the vein and the ligature tied tightly over it. Ten to thirty cc. of a 1 per cent novocain at body temperature is injected. On removing the needle the vein is ligated and the skin closed. The anæsthesia is complete and the bandage is removed. Hæmostatic measures are not necessary. There is no after pain. Infection was never encountered.

Sixteen operations were performed on the feet for ingrown nails, amputation of toes, removal of foreign bodies, and incising infected wounds. One hundred and thirty-four operations were done on the hands for the removal of foreign bodies, tumors of metacarpal bones, suture of tendons, amputations, whitlow, and phlegmon. In cases of recent suppuration, phlegmon with fever, œdema, diabetic

gangrene, and arteriosclerosis, venous anæsthesia is contraindicated. Properly given, venous anæsthesia proved reliable in every case.

**Pinneo: Anæsthesia by Pharyngeal Insufflation.** *J. Am. M. Ass.*, 1912, lix, 1862.

By Surg., Gynec. & Obst.

Pinneo says the present age demands, not so much the discovery of new anæsthetics, as refinement of methods and greater accuracy in the use of the materials we have without the use of elaborate apparatus. He points out two common errors in ether anæsthesia — intermittent administration, to which many fatalities in tonsil-adenoid operations are due; and the extraction of heat from the lungs, amounting to about 21,000 calories of body heat for every ounce of ether used. He advocates, in place of this, insufflation of ether vapor at 87° F. into the pharynx, this method having the additional advantage of allowing operation and administration in the same field. He describes a simple portable apparatus which he has used for three or four years with great satisfaction, originally for throat and head operations; but with this method an anæsthetic so dry, even, and controlled was obtained that he has come to use it for all kinds of operations. The four essential elements of anæsthesia by pharyngeal insufflation are: (1) Steady air pressure; (2) a cock maintaining evenly the delivery of vapor to the patient; (3) the catch bottle interposed between the ether container and the delivery tube; (4) a heating system which will maintain evenness of temperature (incandescent light).

L. G. DWAN.

**Teter: The Limitations of Nitrous Oxide with Oxygen as a General Anæsthetic.** *J. Am. M. Ass.*, 1912, lix, 1849.

By Surg., Gynec. & Obst.

Teter says that, of the general anæsthetic agents now employed, the combination of pure nitrous

oxide with oxygen, when properly administered, is the safest, most agreeable, and freest from post-anæsthetic complications. It is, however, the most difficult general anæsthetic to administer properly.

He advocates morphin and atropin preliminary to anæsthesia. A satisfactory anæsthesia for general surgery cannot be obtained with nitrous oxide and atmospheric air, because nitrous oxide is not respirable with less than 7 to 20 parts of pure oxygen, and as the air contains only about one-fifth oxygen there would be only about  $2\frac{3}{5}$  parts of oxygen available. An even flow of both oxygen and nitrous oxide is most essential. The gases should be under control, with definite known pressures. No definite percentage of the gases is uniformly satisfactory. All anæsthetics are safer when administered warm — about 90° F. is the best temperature for inhalation. The proper amount for rebreathing to prevent acapnia (diminished carbon dioxide in the blood and tissues) must be governed by the symptoms in each individual case. Nitrous oxide and oxygen were administered with positive pressure for intrathoracic surgery in 18 cases without encountering even a temporary cessation of respiration. There is no operation performed at the present time in which nitrous oxide and oxygen cannot be employed. This anæsthetic is contraindicated in children under five years, in old people in whom degenerative processes are manifested, and in strong, vigorous, rough men, whose habits include excessive use of tobacco and alcohol. The ideal patients for nitrous oxide and oxygen anæsthesia are the very ill, the anæmic, the debilitated, and those possessing low vitality from any cause.

L. G. DWAN.

**Gwathmey and Woolsey: The Gwathmey-Woolsey Nitrous Oxide-Oxygen Apparatus.** *N. Y. M. J.*, 1912, xcvi, 943. By Surg., Gynec. & Obst.

The Gwathmey-Woolsey apparatus has been developed in accordance with the principles recognized as essential in the evolution of nitrous oxide and oxygen anæsthesia, especially those utilized by Gatch, Boothby, and Cotton; that is to say, rebreathing, reduction of the pressure, and a sight-feed. The apparatus weighs 16½ pounds, while retaining the essential features of the Boothby and Cotton apparatus, which weighs 40 pounds. With two nitrous-oxide tanks and one oxygen tank in place (enough for a two-hour administration), the total weight is about 42 pounds, not too much for one man to carry a short distance, or to shift without assistance from one place to another. In hospitals where the supply is obtained from large tanks or from a generator in the cellar, the delivery hose from these sources may be attached to the apparatus. If an operation is of less than 30 minutes' duration, enough gas can be carried in three small containers, making the total weight of the apparatus, cylinders, and gas less than 20 pounds.

The valve for the nitrous oxide reduces the pressure from 1000 pounds to the square inch to 10

pounds. The oxygen is controlled by a small valve invented by the instrument-maker, J. Langsdorf. A mercurial manometer, which automatically blows off at 25 mm. mercury pressure, is attached for endotracheal work.

After the gases have been lowered in pressure they pass into a combination sight-feed and warm water bath, where the administrator can see on one side of a nickel partition the nitrous oxide flowing, and on the other the oxygen. The anæsthetist is thus enabled to regulate the proportions of the gases to the finest possible point. This water sight-feed is warmed by an alcohol lamp adjustable to its under surface, thus supplying heat and moisture, which are valuable assets in the administration of an anæsthetic. From the sight-feed the mixed gases pass at the top to an exit tube, to which is attached the rubber tube connecting the rubber bag and mask. The gas cylinders are opened wide into the reducing valves, the flow from these valves being controlled by very sensitive wheels.

The apparatus was especially devised for endotracheal work. When thus used a connection is made with the tube in the trachea, no bag being necessary. The constant flow of the gases insures an even anæsthesia without danger.

The apparatus is also used for nasal anæsthesia and analgetic work. It has been thoroughly tested and found amply sufficient for all surgical cases.

**Coburn: Safety and Science in Nitrous Oxide Administration.** *Med. Rec.*, 1912, lxxxii, 798. By Surg., Gynec. & Obst.

Coburn presents this as a companion to his article on "Ether Administration." He believes rebreathing nitrous oxide is scientific and adds an element of safety to this form of anæsthesia. In his opinion, surgical shock, as to cause and prevention, aside from hæmorrhage is chiefly anæsthetic, local or general. In abdominal operations, with the peritoneum open, the patient will tolerate double the amount of rebreathed air that the same patient would breathe with the peritoneum closed. This is due to the fact that carbon dioxide, being a diffusible gas, rapidly transpires through the capillaries into the air whenever there is considerable exposure of these vessels. He condemns elaborate apparatus, pressure-reducing valves, and percentage gauges, on the ground that they are unnecessary and unscientific. The amount of oxygen used is simply to maintain the proper degree of oxygenation; the indications for its use are clear, and the amount used is always "q.s.," just as with any other anæsthetic.

He finally says that the essentials for anæsthesia are: preliminary hypodermic of morphin and atropin; pliable control of rebreathing and of oxygen throughout the administration; blood always well oxygenated; rebreathing bag close to the patient's face; sterilization of all parts contaminated by breathing; and small amounts of ether as an adjuvant anæsthetic whenever indicated, or infiltration of the field with a local anæsthetic. Pressure-

reducing valves and percentage gauges are unnecessary. Constant flow of gases prevents pliable control of rebreathing. Continuous positive pressure is harmful.

L. G. DWAN.

**Allen: Spinal Anæsthesia.** *J. Am. M. Ass.*, 1912, lix, 1841.  
By Surg., Gynec. & Obst.

Allen has reported 242 cases, with but 15 partial or complete failures and no deaths. He now reports an additional 33 of his own, with no failures and no untoward effects during operation. He advises surgeons to visit Bier's clinic in Berlin for a course in local and spinal anæsthesia, and not to condemn this method as "unreliable, dangerous and no good anyway" because of insufficient experience in its application. In cases in which shocks and sepsis have to be dealt with, this method is often life saving. It absolutely blocks transmission of impulses from the periphery to the brain, and this eliminates shock. Failures are always due to errors in technique—letting the point of the trochar slip out of the spinal canal at the time of adjusting the syringe for injection. He invariably uses a 5 per cent tropacocain hydrochloride solution with epinephrin, prepared with Dönitz' formula. It is important

not to allow patients to come to operation starved and faint. It is not possible for anyone to see a considerable number of cases and not be convinced that spinal anæsthesia has a future equal to that of gasoxygen anæsthesia, if not greater.

L. G. DWAN.

**Bainbridge: Spinal Analgesia.** *J. Am. M. Ass.*, 1912, lix, 1855.  
By Surg., Gynec. & Obst.

Bainbridge uses stovain or tropacocain because fewer unpleasant symptoms are apt to ensue, but does not hesitate to employ cocain. The indications for spinal analgesia are the contraindications for inhalation anæsthesia. A number of surgeons of wide experience accept practically no limitations to its use. The real objections to spinal analgesia are: (1) The operator is absolutely committed to the dose. It can be increased, but not decreased, when once given. With changes in position of the patient and carefully graded dosage, control can be exercised. (2) Analgesic effect may pass before the surgical procedure is finished. Even the most enthusiastic adherents would not advocate the usual employment of spinal analgesia by the surgical novice.

L. G. DWAN.

## SURGERY OF THE HEAD AND NECK

### HEAD

**Homans: The Surgical Treatment of Head Injuries Affecting the Brain.** *Boston M. & S. J.*, 1912, clxvii, 684.  
By Surg., Gynec. & Obst.

Skull fractures may be divided roughly into two classes: indented and bursting fractures. The former cause laceration of the brain and often introduce sepsis. The author briefly describes the treatment of these injuries. Bursting fractures are produced by a blow which causes the sides of the skull, equatorial to the point of impact, to spring and crack. The location of the fracture, unless it ruptures a meningeal vessel, is comparatively unimportant, but most cracks pass through the temporal fossa and rupture the ear drum.

Bursting fractures cause local or general oedema and often laceration of the brain surface and pial hæmorrhage. Symptoms are due to oedema of the brain, hæmorrhage in the meninges, and medullary depression. As treatment is to be directed to the relief of increased intracranial pressure, the principal diagnostic signs to be observed are deepening unconsciousness and the appearance of bloody fluid (from pial hæmorrhage) on lumbar puncture. Extradural hæmorrhage usually presents a classic picture, but except as identifying this condition, the external signs localizing the injury to one side of the brain are deceptive. The value of these and other signs is discussed.

Operative treatment is indicated if, after a varying period of observation, there is evidence of cere-

bral oedema and laceration, and the patient's condition does not improve or shows signs of increased intracranial tension and medullary failure. Subtemporal decompression answers the demands of surgery, for (1) it takes the operator to the most common seat of hæmorrhage, and (2) it allows drainage and relief of tension over a silent area of the brain. When operation is not called for, absolute and prolonged rest is essential.

The author describes a number of illustrative cases. His experience leads him to believe that in suitable cases, decompression, by checking and draining hæmorrhage, and by tiding the brain over a period of pressure, not only saves life but shortens convalescence and favors completeness of recovery.

**Auerbach and Grossmann: Case of Bilateral Cysts of the Cerebellum Successfully Operated on** (Ueber einen Fall von doppelseitigen mit Erfolg operierten Kleinhirncysten). *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1912, xxv, 455.

By Surg., Gynec. & Obst.

The authors give the detailed history of a case of bilateral cyst of the cerebellum. When the patient was 16 years old, a cyst occupying almost the entire posterior left hemisphere of the cerebellum was extirpated. Following this for 4½ years he was practically well, when symptoms appeared which seemed to indicate that there was now a cyst in the right hemisphere. However, it was possible either that the right hemisphere of the cerebellum was being drawn by cicatricial traction to the left side,

or that a small tumor to which the extirpated cyst had belonged had now grown into the right side.

Two punctures of the right lateral ventricle, performed at intervals of 20 days and resulting in the removal of large quantities of fluid, had only momentary subjective results; and when vomiting, pallor, and slowing of the pulse set in, it was decided to open the right cerebellum. After perforation of the skull, amber fluid spurted out and the respiration improved immediately. A piece of the skull the size of a silver dollar was resected. The wall of the collapsed and perforated cyst was very thin and could only be partly removed, so that a tampon was made and the operation uneventfully finished. The patient improved rapidly, but had considerable pain in the right eye when the tampon was replaced by a drain. This pain stopped, however, when the drain was shortened.

E. S. TALBOT, JR.

**Taylor: Neurological Aspects of Injuries to the Cranium and Spinal Column.** *Boston M. & S. J.*, 1912, clxvii, 675. By Surg., Gynec. & Obst.

Dr. E. W. Taylor draws the following conclusions from a study of head injuries: The outcome of a blow on the head is not to be estimated by the extent of manifest brain injury. Fracture of the skull is not in itself of grave import. Focal symptoms indicating laceration are not necessarily serious complications; unless the damage to the brain be extensive such focal symptoms are apt to improve or wholly disappear. The possibility, however, of late epilepsy and more or less permanent mental symptoms or neurotic states should always be considered. Immediate prognosis is to be determined largely by the condition of consciousness — if the patient holds his own or improves in this regard, the outcome is in general favorable; if the coma deepens, the prognosis must be considered grave. Rest is the first essential of treatment;

surgical intervention should be practiced with conservatism.

A study of the clinical disturbances and pathological findings in traumatism of the cord leads to the following general conclusions: Hæmorrhage external to the cord is unusual, and need not be seriously considered in deciding upon operation. Concussion of the cord without definite microscopic lesions is a possibility. Damage to the cord is immediate following the injury. Nothing, therefore, is to be gained in the majority of cases by immediate operation. Surgical interference should in general be delayed until the immediate shock of the injury has abated. Operation in any event is unavailing when signs of complete transverse lesion persist. Laminectomy may help in selected cases toward restoration of the functions of a partially damaged cord.

**Pichler and Oser: Immediate Prosthesis Following Resection of the Mandible** (*Mittelbar Prothesen nach Unterkieferresektion*). *Arch. f. klin. Chir.*, 1912, xcix, No. 4. By Surg., Gynec. & Obst.

This article is a continuation of the one published in volume 84 of this series.

In order to avoid the serious complications following resection of the lower jaw, either of the following methods may be resorted to: 1. The wound may be allowed to heal and cicatricial tissue to form. 2. Prosthesis may immediately follow the operation, the temporary splint being removed after cicatrix is completely formed and the permanent splint substituted. 3. Implantation prosthesis may be done. 4. The defect may be filled by means of a plastic operation.

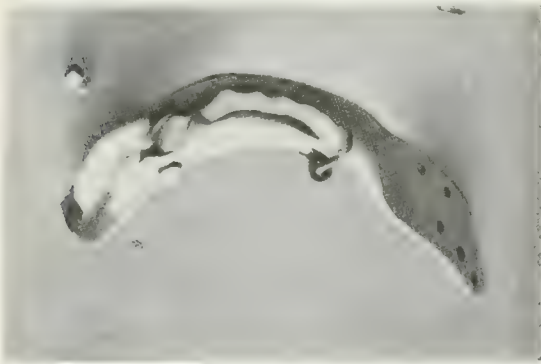


Fig. 1, Case 9. Jointed splint made of silver. The fixed labial part has a small inclined plane on the left side, and on the right side the perforated arm connects with the immediate prosthesis of the jaw. The lingual movable part can be pressed against the labial part and held there by means of a screw, so that the teeth are held absolutely firm. (Pichler and Oser.)



Fig. 2. Immediate prosthesis made of vulcanite, with a system of canals which can be irrigated by means of a tube. The six openings for the use of irrigating fluid are located at the joint and on the convex part of the prosthesis, and therefore are not visible in the picture. The jointed prosthesis, fastened with a hook, rests upon a model of the teeth made previous to the operation. The above illustration shows the jointed splint opened. The connection between the jointed splint and the real prosthesis can be made by means of a screw adjusted to the necessary width. (Pichler and Oser.)

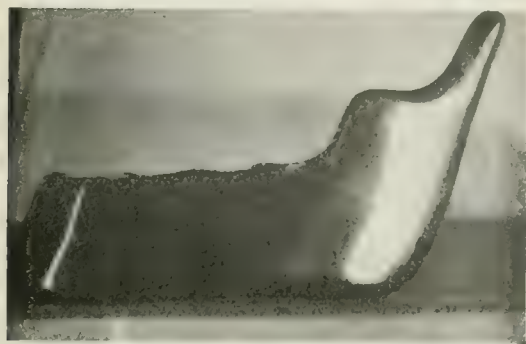
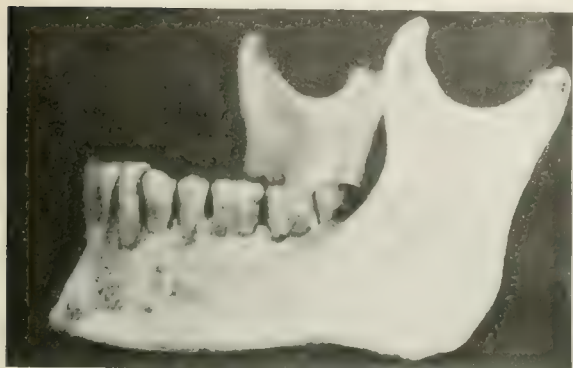


Fig. 3. Immediate prosthesis made of vulcanite and of the best design in accordance with our experience. Above the splint is shown the jaw from which the splint is modeled. This design differs from that of others principally in its greater width, particularly in the ascending branch, and in the stamped shoulder whereby it rests against the thin joint end. (Pichler and Oser.)

The first procedure has the great disadvantage that the patient is exposed to considerable discomfort, and to great loss of time. It is therefore seldom used. The second method is the subject of this paper. The third is of little value; most of the cases with implantation prosthesis heal imperfectly and leave a fistula. The last method is the ideal one. Here either a skin-muscle-bone flap or a skin-bone flap is used. Rydygier obtained excellent results in a case of mandible defect by transplanting a skin-bone flap from the clavicle.

The author gives 11 case histories accompanied by photographic illustrations. He recommends a hinge splint (Scharnierschiene) made of silver and vulcanite and provided with a clasp for the teeth. The use of this splint safeguards the bone from injury, especially if it can be fastened to the teeth on the sound portion of the mandible. The change from the temporary to the permanent prosthesis offers no difficulty. The difference between the two is that the permanent fixture is supplied with artificial teeth. The time for changing one to the other is easily determined; in the present series of cases it took from two to three weeks. The use of the hinge

splint prevents bone necrosis and chronic suppurations, complications so often present with the use of prosthetic appliances that have to be sutured to soft parts and fastened with screws. It is best to have the permanent prosthetic appliances made in duplicate, so that the necessary changes may be made without delay.

E. S. TALBOT, JR.

**Abadie: Osseous Graft after Resection of the Inferior Maxillary** (De la greffe osseuse après résection du maxillaire inférieur; à l'occasion de deux cas d'adamantinome kystique). *Rev. d'Orthop.*, 1912, Nov. By *Journal de Chirurgie*.

Abadie reports two cases of cystic adamantinoma of the inferior maxillary bone. In one of these cases a partial resection of the maxilla was performed without interruption of the mandibular arch. The intervention was economic and proved sufficient. This case is interesting only from its anatomical characteristics. It is a new formation of multiple cystic cavities containing no normal or abnormal teeth. It contained, however, a well-developed supplementary tooth presenting the characteristics of an adamantinoma origin. This was confirmed by the presence of enamel dust and of a pseudo tooth. Abadie designates this tumor by the name of polycystic adamantinoma of paradental origin. This term is expressive of the histologic structure, macroscopic aspect, and histogenesis.

One of the cases is very interesting. Having to operate upon a multilocular cystic adamantinoma of the inferior maxillary bone, Abadie resected the corresponding half of the maxilla, which was involved in its whole thickness, and transplanted immediately the second rib in the bed left free by the ablation of the mandibular arch. He lodged the small extremity of this rib in the temporo-maxillary articulation. At the end of two months and a half the graft, which had become infected and had determined suppuration, was eliminated. He asks himself whether it is preferable in a case of this nature to transplant immediately or to wait and transplant later. A safe conclusion can be reached only by a careful study of the experience of many operators. It is essential that scrupulous care be taken to avoid soiling, during the course of operations, the operative field by the buccal secretions, and to carefully suture the buccal mucosa before placing the rib in its new bed.

ALBERT MONCHIT.

**Frazier: Intracranial Division of the Auditory Nerve for Persistent Aural Vertigo.** *Surg., Gynec. & Obst.*, 1912, xv, 524.

By *Surg., Gynec. & Obst.*

Division of the auditory nerve for persistent aural vertigo is a comparatively new procedure, there being no case on record until the operation performed by Dr. Frazier in 1908. While the vertigo was only partially relieved by the operation, he urges, from his experience with this and other operations in the posterior fossa, that this procedure

be resorted to more frequently for the relief of persistent and intractable forms of aural tinnitus and vertigo. Great care should be taken, however, in the selection of cases, as those cases of tinnitus or vertigo of central origin should be excluded, and those in which the disease is of labyrinthine origin considered most appropriate. The patient, a woman of 64, had a history of nasal catarrh, and nine years prior to the operation an attack of influenza, after which she became a constant sufferer from vertigo, mostly on the left side, so that she gladly consented to operative intervention. The incision was made as for a unilateral suboccipital craniectomy, the musculo-cutaneous flap reflected and the bone removed to expose the left cerebellar hemisphere, the dural flap turned back, and the auditory nerve exposed by following the direction of the petrous bone. The most delicate part of the operation then followed, namely the identification and division of the auditory nerve. The hemisphere was retracted and the eighth nerve most carefully separated from the facial, and what remained of the former divided, the latter being identified by the use of a galvanic current, great care being taken all the while not to injure in any way the facial nerve.

The author has found that hæmorrhage from the scalp may be readily controlled in these operations in the posterior fossa by introducing a continuous overlapping silk suture one half inch above the line of incision. He advocates very strongly the use of the intratracheal method of anæsthesia not only as a matter of convenience to the operator, but because it is a factor in minimizing the risks of the operation, first, by controlling venous hæmorrhage, and second, by counteracting any obstacles that may be offered to the respiratory function when the patient is in the face down position.

**Tooth: Some Observations on the Growth and Survival Period of Intracranial Tumors, Based on the Records of 500 Cases, with Special Reference to the Pathology of the Gliomata.** *Proc. Roy. Soc. M., 1912, vi, 1.*

By Surg., Gynec. & Obst.

This is a most exhaustive article on the subject, and it happens that a great deal of it can best be given in the tables of the author.

TABLE I

	Region	Sex		Total
		M.	F.	Per cent
1	Frontal, . . . . .	60	40	100 21.7
2	Central pre- and post parietal . . . . .	33	20	63 13.7
3	Temporo-sphenoidal . . . . .	24	25	49 10.6
4	Occipital, . . . . .	8	0	14 3.0
5	Corona radiata, corpus callosum, etc. . . . .	4	6	10 2.1
6	Lateral ventricle . . . . .	2	1	3 0.6
7	Pituitary . . . . .	10	4	14 3.0
8	Optic thalamus . . . . .	4	2	6 1.3
9	Mesencephalon . . . . .	18	8	26 5.2
10	Pineal, . . . . .	4	..	4 0.8
11	Choroid plexus, III and IV ventricles . . . . .	4	1	5 1.0
12	Cerebellum . . . . .	44	33	77 16.4
13	Extracerebellar . . . . .	10	21	40 8.7
14	Pons . . . . .	10	24	43 9.3
15	Medulla, . . . . .	1	1	2 0.2
16	Base, . . . . .	1	3	4 0.8
Total, . . . . .		264	195	459
17. Not localized, . . . . .		24	17	41
Grand total, . . . . .		288	212	500

Forebrain: 239, or 52 per cent; midbrain: 30, or 6.5 per cent; cerebellum and pons: 160, or 34.2 per cent.

Of the group shown as not localized, many are unquestionably located in the frontal and temporo-sphenoidal regions.

In regard to the age the author sums up as follows: Tumors of the forebrain tend to appear more frequently in middle age, but no age is exempt. Those of the midbrain, on the other hand, are most predominant in the early or adolescent period, and the same may be said of tumors of the cerebellum and pons. Comparatively few occur here after 30.

As to the variety of the tumor, gliomata comprised 127, or 49.2 per cent; fibrogliomata, 15; fibroma 13; endothelioma 37; sarcoma 21; carcinoma 15; tuberculoma 14; simple cyst 5; papilloma 3; cholesteatoma 2; pituitary 2; pineal gland 4.

Cancerous heredity was present in 37 cases, or 7.2 per cent. In no case was there any history of a brain tumor. Gliomata were well distributed throughout the brain, comprising 58.7 per cent of all the growths in the forebrain, 50 per cent of those in the midbrain, and 38.4 per cent of those in the cerebellum and pons. Fibrogliomata and fibromata were peculiar to the cerebellum, pons and medulla; endotheliomata occur only in the anterior fossa of the skull. Sarcoma occurs in any portion of the brain. Of the 21 cases, 6 were undoubted round or spindle-celled sarcomata and were secondary; the remainder of the cases were primary.

Of the 15 carcinomata, only one was unquestionably primary. Primary tumors in 7 secondary cases were located; 3 times in the mammary gland, and one each in the ovary, suprarenal, pancreas and rectum.

The reason for the small number of tuberculomata in this series is that very few children are included in the series.

Simple cyst is a rare condition; many gliomata, however, show cystic degeneration. Papilloma is a rare condition. There were probably 14 cases of pituitary tumor, but only 4 were verified by operation, and of these 3 died and one survived as long as 3½ years; 2 of the 3 which died lived for six months. The pineal gland tumor was not diagnosed as such.

As to the survival period of tumors from the appearance of the first symptom to death: gliomata, six weeks to nine years, an average of 16.2 months; if we exclude unusual cases the average goes down to 10.1 months, which is probably more nearly correct. The survival period for the frontal region is longest; the temporo-sphenoidal region comes next. Endotheliomata survived anywhere from 6 months to 20 years. The average of the 5 sarcomata was 11.2 months; of the carcinomata, 10.1 months; of the 7 tuberculomata which came to operation, the average survival was 21.5 months. Very little can be said about the other forms.

Tooth then takes up the subject of the glioma from the histological standpoint. The first thing to be noted is that there is a very great variation between different sections of the same tumor. The histological features to be noted are:

"1. A fine, loose-meshed glia reticulum.

"2. Delicately stained, barely visible glia-cells, with three or more branching processes, which divide into a fine reticulum which forms the stroma or connective tissue basis of the tumor. To show these elements, a counter-stain, such as Van Gieson's, is necessary.

"3. Scattered over the section in not excessive numbers are the glia nuclei, always deeply stained by hæmatoxylin. I call these 'glia nuclei' to distinguish them from the more histologically definite 'glia cells.' Possibly they also are cells with an invisible cytoplasm. The term is provisional only. They should be fairly uniform as to size, and not grouped; but even in this apparently innocent quiescent picture these cells tend to show an arrangement in circles or segments of circles, a feature to be referred to later when considering the more malignant types.

"4. The blood-vessels are few and their walls lined internally by a single layer of flattened endothelial cells."

Cyst formation is very common in gliomata. The first point to be determined is as to what constitutes malignancy and on what changes malignancy rests. The arrangement of the nuclei into circles or even lines is an indication of the awakening of proliferative activity. As to the glia cells, alteration from normal consists in enlargement and increase in number, multiplication of the nuclei, and the disappearance of the original cell and independent existence of the nuclei.

As to the rôle which the blood-vessels play, it is difficult to determine. These tumors are very vascular and the blood-vessels are lined by an endothelial lining. Usually the larger vessels present the appearance of an arteriole, but sometimes in the angiomatous forms there is seen a thickening and condensation of the glia tissue about the large vessels. Necrosis goes on hand in hand with increased growth. It is not too much to say that the more evidence existing in a given tumor of active growth, the more certainly will be found parts in which necrosis is in progress.

The glioma shows a tendency to cyst formation more than any other group. These cysts are sometimes single, but more often are multiple. They may be drained with temporary or even prolonged benefit. The cyst begins as a rarefaction of the gliomata, and is an evidence of long life and a process of atrophy rather than of activity.

In concluding, Tooth remarks that in the present state of our knowledge we must be content with relieving pressure by decompression on all gliomata.

C. G. GRULEE.

#### NECK

**Chiari: Tumor of the Carotid Gland** *Beitr. z. klin. Chir.*, 1912, lxxi, Nov. By Surg., Gynec. & Obst.

The patient, a man of 37 years, gave a history of the development during the preceding three and one half years of a small painless tumor on the left lateral aspect of his neck. During the last few months this

tumor had shown marked increase in size. Examination showed a tumor the size of a pigeon's egg, hard, smooth and only slightly movable on deep palpation. Its site corresponded with the bifurcation of the common carotid. At operation the tumor was found to lie between the internal and external carotid arteries. The branches and trunk of the external carotid were ligated and a temporary ligature was passed around the common carotid and left in place, while the tumor was dissected from the wall of the internal carotid, which was not injured. Operative healing followed. Microscopic examination of the tumor showed a connective tissue stroma separating alveolæ which contained collagenic epithelioid cells. A few mitotic figures were observed. Chiari does not come to any conclusions as to the nature of these cells. They might represent an undifferentiated stage in cell division, or they might be the embryonic cells which are found in the sympathetic system.

M. C. PINCOFFS.

**Hazelhurst: Subluxation of the Major Cornu of the Hyoid Bone (Dysphagia Valsalviana).**

*Bull. Johns Hopkins Hosp.*, 1912, xxiii, 344.

By Surg., Gynec. & Obst.

The rarity of subluxation of the major cornu of the hyoid bone, or the infrequent diagnosis of this condition, explains why so few cases have been reported. The author's attention was attracted to this fact when he was trying to discover cases with symptoms similar to those of a patient who presented himself for diagnosis in the Laryngological Dispensary of the Johns Hopkins Hospital.

The patient, Dr. McC — of Texas, stated that in 1887, when a child of seven years, he suddenly became unable to swallow. He was taken by his father to a physician, who tried in vain to get something into place in his neck which had apparently become twisted. The longer the condition persisted, the more painful were his efforts to swallow. After two days, during which time the child remained with the physician, there was a sudden restoration of the normal condition. Repeatedly after this he had had similar attacks, in which swallowing became at first painful and then impossible. They would come on when he yawned or turned his head suddenly. Sometimes the condition would be relieved of itself, as in the first attack, and sometimes he was able to obtain relief by pulling hard on the skin in front of the sternomastoid muscle. At the age of 23 he learned to "set it," as he expressed it. He inserts his index finger into his mouth at the side and base of the tongue, at a point which corresponds, when one feels on the outside, to the attachment of the major cornu of the hyoid bone to the superior cornu of the thyroid cartilage, and presses outward and forward. Something goes back into position with a distinct click. These points were determined on examination during the time in which the abnormal condition was present. As far as could be determined by a laryngoscope there was no change in the larynx.

A study of the anatomical relations of the hyoid bone and of the symptomatology of 11 cases of subluxation of the major cornu of the hyoid bone, including the author's case and ten cases collected from the literature, makes it seem probable that in this case there was a loose articulation of the major cornu with the body of the hyoid bone, or a loose attachment of the tip of the major cornu to the superior horn of the thyroid, allowing greater freedom of movement of the major cornu than is normally present.

Aside from the author's case he gives histories in brief of 11 cases which have been reported, and he observes that, while the symptoms vary somewhat in severity, the resemblance between the cases is so striking that the assumption seems warranted that the underlying cause is the same in each case. There is most probably a dislocation of varying degrees of the major cornu of the hyoid bone in an outward or inward and downward direction. Either type may occur as the result of trauma or of sudden movements of the head, neck, or jaws. In the latter case, it seems likely that there exists a loosened condition of the attachment of the tip of the greater cornu of the hyoid bone to the superior horn of the thyroid cartilage, and perhaps looseness of the articulation of the cornu with the body of the hyoid, allowing freer play of the tip.

Subjectively, the patients experienced pain in swallowing (six cases), total inability to swallow (two cases), marked anxiety (four cases), and a feeling as though a foreign body were blocking the oesophagus (three cases). In every case there was immediate and marked relief on reduction of the dislocation. Four cases came on during sudden movements of the neck and jaws (yawning, coughing, singing, etc.) and four as the result of direct trauma from without by choking, or from within through the ingestion of a large solid particle.

G. E. BEILBY.

**Schlesinger: Acute Exophthalmic Goitre.** *Therap. Gegenwart, Berl.*, 1912, liii, 488.

By Surg., Gynec. & Obst.

Schlesinger draws attention to the symptoms-complex of acute Graves' disease which so often is diagnosed as occult neoplasm. Its most striking characteristic is rapid emaciation—loss of 20 pounds or more in a month is not infrequent. One patient lost two thirds of his weight in 11 weeks. Neoplasms show such a rapid loss only when ingestion of fluid or food is restricted mechanically. Splenic tumor, at times of considerable size, is quite common. It is an early symptom, absent only in a few cases. Fever is more frequent in the acute than chronic forms of the disease. The type varies. The thyroid gland is often not enlarged, indeed it impresses one at times as if diminished in size. A vascular bruit always can be heard over the gland; it is soft, with rhythmical, systolic accentuations. It is of eminent diagnostic importance. Eye symptoms often are indistinct. Exophthalmos may be absent or slight. Stellwag's symptom was present often and early in his cases. Tachycardia was al-

ways found. The arterial symptoms tally in many points with those found in aortic insufficiency. Blood findings are identical with those of the chronic state. Leukopenia, with relative lymphocytosis, is the picture represented. If associated with fever and splenic tumor, typhoid fever may be simulated. The gastro-intestinal disturbances coincide with those present in the chronic form. Schlesinger has observed intense icterus in three of his cases. Glycosuria existed several times. Resistance in these patients is very low. A slight infection may cause death in a short time. Status hypoplasticus has been a frequent finding at autopsy. Schlesinger thinks that the disease takes an acute course in hypoplastic individuals. Acute Graves' disease is a *noli me tangere* to the surgeon, at least as long as the acute symptoms predominate. It should be our aim to transform the acute into the chronic state. Schlesinger suggests the following treatment: Absolute rest in bed with plenty of fresh air; forced feeding with albumen and fat; antithyroidin (Morbis), 3 tablets daily, or 15 to 20 drops of the liquid three times daily combined with intramuscular cacodyl injections (0.02 to 0.05 daily). After 20 injections a pause is made. X-ray treatment is employed in every case, despite the objections of Eiselsberg that this form of treatment stimulates connective tissue formation about the gland so excessively that it increases difficulties during operative interference markedly. Phosphate of sodium (Kocher) has been used; but Schlesinger is not convinced of its efficacy. Galvanization of the neck and hydrotherapy are recommended. Residence in high altitudes (1000 to 1500 metres) is of great benefit. E. C. RIEBEL.

**Farrant: Thyroid Action and Reaction with Special Reference to the Formation of Thyroid Tumors.** *Proc. Roy. Soc. M.*, 1912, vi, 21.  
By Surg., Gynec. & Obst.

In clinical toxæmias the colloid of the thyroid first becomes finely granular; then vacuolated and partly absorbed; then the cells become more numerous, elongated, approaching the columnar type and arranged in masses. The colloid then is entirely absorbed, and the infolding and cell increase go on to transform the vesicles into solid masses. This is shown by examination of the thyroids from cases of infantile diarrhoea, diphtheria, measles with broncho-pneumonia, and whooping cough with broncho-pneumonia. In order to test this out experimentally, the following investigations were undertaken:

First, guinea pigs were tested by the injection of diphtheria toxin, and it was shown that some changes were produced in the guinea pig. If diphtheria toxin produced thyroid changes, it was thought likely that by the use of thyroid extract some changes in the clinical course might be produced, and those guinea pigs receiving thyroid extract lived longer than those without. The serum of the thyroid-fed animals was found to be antitoxic, and diphtheria antitoxin was found to contain more thyroid secretion than normal serum.

He summarizes these findings as follows: (1) The thyroid undergoes hyperplasia in certain diseases. This hyperplasia resembles that following partial thyroidectomy. A similar hyperplasia is induced in guinea pigs by the injection of diphtheria toxin, and is mitigated if thyroid administration be combined with the diphtheria toxin. These guinea pigs also survive longer than the controls. (2) The blood serum of a thyroid-fed rabbit is antitoxic to diphtheria toxin. (3) Antitoxin fed to normal rabbits produces symptoms similar to those arising from feeding thyroid, while in thyroidectomized rabbits antitoxin is borne without symptoms. (4) Diphtheria antitoxin contains iodine in organic combination; normal horse serum contains but the slightest trace. This indicates some close relationship between the thyroid function and the development of certain antitoxins. It may be suggested that the hyperplasia observed in these toxæmias arises from the attempt to form antitoxin.

In the formation of thyroid tumors, the toxins that produce thyroid hyperplasia must be either exogenous or endogenous, and the earlier stages of hyperplasia would not produce a larger thyroid but rather a diminution in size of the colloid material. Following this there would be renewed production of colloid, which would result in the formation of the so-called adenoma, or the involution may go on to fibrosis. In other words, the changes may be summed up as follows: Hyperplasia without thyroid enlargement; hyperplasia with various degrees of enlargement; adenomata of involution; cysts and cystadenomata of degeneration.

As to thyroid tumors in cretins, 75 per cent of cretins have enlarged thyroids. There are two facts which account for this: (1) The toxins circulating in the blood of the foetus will be relatively large in amount, as it will correspond to the toxicity of the mother's blood. (2) The thyroid of the normal foetus is always in a condition corresponding to hyperplasia.

C. G. GRULEE.

**Fuller: Exophthalmic Goitre.** *Surg., Gynec. & Obst.*, 1912, xv, 585. By Surg., Gynec. & Obst.

This report makes a creditable showing as to the surgical and non-surgical treatment of Graves' disease. When subjected to one or more of the operative procedures now employed in the treatment of this affection, fully 85 per cent of the cases are cured, both as to thyrotoxicosis and secondary changes in other organs.

Emphasis is laid on the benefit to be derived from medical measures, especially when instituted early and followed persistently, and individual reports are not lacking to show that cures in some of the severest types of Graves' disease have thus been permanent and lasting. Without the therapeutic aids which are included under the heading "Medical Treatment," the percentage of cures claimed for surgical treatment would call for some modification; for it is here in the few weeks or months of the post-operative history that proper environment

and all-around general management mean so much, and afford undisputed evidence of its value.

The class of cases in Graves' disease calling for surgical treatment exhibits a great difference in degree and severity, necessitating some experience and judgment in the proper selection of the most appropriate therapeutic measure. Any procedure which may exceed the limits of safety as to time or extent of the operation is a question too important to be ignored.

The possibility of such an error is not difficult to understand if the fact is recalled that simple pole ligation will limit the function of the thyroid gland in one instance equal to the ablation of a major portion of the thyroid in another instance.

It is quite generally recognized that the more minor procedures, as ligation of one or more of the thyroid arteries, should, as a preliminary step, be the operation of choice, because the mild cases call for no more than this to effect a cure, and the more severe cases are so greatly benefited thereby that subsequent surgery of the thyroid gland is employed without hazard or risk.

The report argues against the somewhat indiscriminate removal of all forms of thyroid enlargement without thyroid intoxication, on the assumption that these are cases of early Graves' disease. It is but fair, however, to accord to this hypothesis some weight, as the histologic picture of Graves' disease and that of colloid goitre are in many particulars identical.

When formulating and executing plans for surgical operations in Graves' disease, the myxœdematous or third stage of this affection cannot be eliminated from consideration. Athyroidism or decreased activity of the thyroid gland may follow any one of the operations now in vogue for the cure of an overactive thyroid gland, and is not infrequently seen in cases not treated at all by surgical means.

**Camera: Primary Tuberculosis of the Thyroid Gland** (La tuberculose primitive de la glande thyroïde). *La Clin. Chir.*, 1912, xx, Oct. By Journal de Chirurgie.

Primary tuberculosis of the thyroid gland is uncommon. The author reports one case. A female, 51 years of age, had indefinite general symptoms of sufficient severity to confine her to bed for five weeks. During that period she complained of cervical constriction and of a persistent dry cough. A tumor was present in the median line below the thyroid cartilage. At the end of five months the tumor had reached the size of a hen's egg, and continued to increase in size, causing acute inspiratory disturbances. The patient looked bad; emaciation was marked; complexion, as well as mucosa, was pale. The cervical tumor was fist-sized and extended from the hyoid bone to the sternal notch; laterally, it was bounded by the sterno-cleido-mastoid muscles. It was hard in consistency, and was adherent to the laryngo-tracheal tube.

The rapid development of the tumor, the intensity

of the respiratory disturbances, and the advanced cachexia led the author to diagnose cancer of the thyroid gland. Extirpation of the mass adherent to the trachea was difficult. Shortly after operation the patient died. The autopsy showed no trace of tuberculosis in other parts of the body. The right lobe of the thyroid was normal, the first rings of the laryngo-tracheal canal were destroyed. The anatomical findings were such that the author regards this case as one of absolutely demonstrated primary tuberculosis of the thyroid gland. In all the cases previously reported, the diagnosis, except in one instance, was not made during life. In this one it was made through an exploratory puncture of a cold abscess. These patients were all subjected to operation with the idea that they were suffering from malignant tumor of the thyroid. These two conditions give similar symptoms. Cancer of the thyroid is frequent, but tuberculosis of the thyroid is extremely rare. For the differential diagnosis, the author attaches great importance to the absence of pain in the thyroid gland in tuberculosis, however rapid be the development of the disease or however marked the swelling. In cancer, however, the pain is intense and radiating.

Among other conclusions, he states that in the presence of a swelling in the thyroid gland giving the clinical physiognomy of a malignant neoplasm, one should think of chronic inflammation and should resort, before operating, to all known methods of investigation; if necessary, culture experiments should be made. From the prognostic standpoint and from the standpoint of operative indications, the importance of a precise diagnosis is great. Tuberculosis can heal spontaneously or with the aid of a limited operation, such as incision or enucleation of the inflammatory focus.

PIERRE FUDET

**Shepherd: Tetany Following Extirpation of the Thyroid.** *Ann. Surg., Phila., 1912, lxvi, 665.*

By Surg., Gynec. & Obst.

After giving a short résumé of the history of the parathyroids and their relation to tetany, Shepherd says there are two theories of the functions of the parathyroids; first, that an antitoxin is developed

by them which neutralizes certain waste products of tissue metabolism (Berkeley), so that when the parathyroids are destroyed a toxic material is formed in the blood which causes tetany; second, that the calcium metabolism of the cells of the body is controlled by the parathyroids, and that their removal causes a rapid disappearance of the soluble salts of calcium from the blood.

There is considerable evidence to support both theories; but the idea, advanced by the earlier observers, that the parathyroids are really embryonic remnants or portions of foetal thyroid has almost been given up, most workers admitting that they are organs of vital importance to the economy.

In taking up the treatment of tetany, Shepherd first tells of a successful case of autotransplantation of a parathyroid in a case of tetany following thyroidectomy, reported by Brown of Australia, and then goes on to detail a most interesting and instructive case of his own. The patient, a woman of 34, developed tetany three days after a difficult thyroidectomy. Calcium lactate relieved every attack promptly, but only temporarily, thus agreeing with the conclusions of Voegtlin and McCallum, that calcium can cure temporarily any case of tetany due to insufficiency of the parathyroids. The dried extract of parathyroid failed to help the patient, and she was compelled to continue taking calcium after leaving the hospital. Seen five months after operation the patient was well and had gained 20 pounds, but she had to take 20 grains of calcium lactate twice a day, having gradually reduced the amount from one dram every three hours.

The author says that in this case, although no parathyroids were found in the removed thyroid, still there must have been some injury to these glands, due perhaps to the after-hæmorrhage and distention of the cavity with blood clot after the operation. He was of the impression that perhaps in time the damaged parathyroids might resume their functions, for Eiselsberg and Kummer report cases of recovery after one year. If recovery does not take place within that time the author intends to get human parathyroids, if possible, for transplantation.

B. M. BERNHEIM.

## SURGERY OF THE CHEST

### CHEST WALL AND BREAST

**Brown: Operative Treatment for Cancer of the Breast.** *N. Y. M. J., 1912, xcvi, 949.*

By Surg., Gynec. & Obst.

The following record of 137 cases of cancer of the breast suggests some practical conclusions. Thirty per cent of these cases gave a history of trauma. One hundred and thirty-one were operated upon, and in all but 10 cases a radical operation was performed.

The post-operative histories of 85 cases have been traced, as follows: Recurrence (or metastasis), in 6 cases within a year; in 46 cases within two years; in 22 cases within three years; and in 10 cases within five years. There was a single patient alive after 15 years.

Many of these cases were operated upon early in the disease — one on the day the tumor was discovered. But macroscopical and microscopical examinations in all cases seem to prove that so-called "early" cases are really well advanced. The author

believes that the fact that some persons succumb quickly to small cancers, while others live for years with large ones, is due to a difference in the resistance of patients, not to a difference in the virulence of the disease. He suspects the neurones of playing a part in the etiology of cancer.

He believes that: (1) Any breast operation to be radical must sacrifice the pectorales, major and minor, but in some cases the upper clavicular portion of the pectoralis major may be left, thus getting better arm function. (2) If attempting a radical operation, all connecting lymphatic chains should be removed. This may require wide work, as the lymphatics drain the breast in all directions, even to perforating between the intercostal spaces. (3) No one method of incision is applicable in all cases. Removal of large areas of skin is necessary, and grafting must be resorted to in a minority of cases. (4) All late cases on the border line between operable and inoperable cases should be X-rayed to determine the possibility of metastasis in the long bones. Especially is this true if the patients suffer any neuralgic pains in certain joints. E. H. WILLIAMS.

**Dardanelli: Anatomical and Clinical Data Concerning Sarcomata of the Scapula Treated by Total and Subtotal Resection** (Considérations anatomo-pathologiques et recherches cliniques sur les sarcomes de l'omoplate opérés par résection totale et subtotale). *La Riforma Med.*, 1912, xxviii, Nov.

By Journal de Chirurgie.

The author has had occasion to operate, in one year, upon two cases of sarcoma of the scapula, and the results have somewhat discouraged him. His first patient, whom he saw in the eighth month of his illness, was 8 years of age, and presented a large tumor of the left suprascapular fossa. This tumor completely filled the suprascapular fossa and part of the infrascapular; in fact, only the inferior angle of the scapula was free. The tumor was continuous, with a hypertrophied glandular mass in the axilla, and on examination it was seen that it also occupied the infrascapular fossa. The patient would not allow an interscapulo-thoracic amputation, so the author had to limit his intervention to a total scapulectomy. In the course of the operation the softer portion of the tumor ruptured and flooded the operative field with a semi-liquid, blackish material. Upon examination it was found that the tumor involved the bone, the periosteum, and the anterior and posterior scapular muscles. The tumor contained delicate osseous lamellæ surrounded by yellow connective tissue, fibroblasts, and small round cells having opaque nuclei. The lymphatic glands were not examined, nor was the blood. Six weeks later there were two recurrences in the scar, which were extirpated immediately. A month later, pulmonary and cranial metastases became evident and patient died with encephalo-meningitic symptoms.

The other patient, a woman 30 years of age, was seen in the fifth week of her illness. She presented in the right infrascapular fossa a mandarin-sized tumor. This tumor was limited to the infrascapular

fossa, the balance of the scapula being intact. A sub-total scapulectomy was performed, leaving in place the acromion process, the coracoid process and the articular cavity. The wound was completely healed on the twenty-fifth day. A specimen showed that the tumor was of periosteal origin and was limited to the infrascapular fossa. The bone was not involved but the muscles were infiltrated. Histologically, it was a small round-celled sarcoma. Though the tumor was limited, Dardanelli believes that it was malignant, and he regrets not having made a more extensive extirpation. AMEUILLE.

**Schumacher and Roth: Thymectomy in a Case of Basedow's Disease with Myasthenia** (Thymektomie bei einem Fall von Morbus Basedowi mit Myasthenie). *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1912, xxv, 746. By Surg., Gynec. & Obst.

The authors report a case of Basedow's disease with myasthenia, in which expectant therapy of ten weeks' duration brought no improvement. Ligation of the superior thyroid artery was followed, during the next four weeks, by an aggravation of the myasthenic symptoms, while the Basedow symptoms remained unchanged. A thymectomy was then performed, which was well borne by the patient. Soon after the operation the heart symptoms subsided and disappeared, the patient becoming restful physically and mentally. After two weeks' improvement the myasthenic symptoms became evident, and fourteen days later the pulse had gone down from 120-130 to 100-120, remaining there until the patient was discharged. Four months after the operation the myasthenic symptoms were much reduced, the Basedow symptoms, however, being little influenced. An examination fourteen months later showed considerable improvement in both the Basedow and myasthenic symptoms. A systematic blood examination is charted. The operation was immediately followed by a pronounced neutrophile hyperleucocytosis, with a relative and absolute diminution of lymphocytes in comparison to previous examinations. Ten days after the operation the findings in the blood were the same as before, and examinations made eight and fourteen months later revealed a completely normal picture. The course of the case speaks decidedly against a causal connection between myasthenia, Basedow's disease, and the function of the thyroid gland. The ligation of the superior thyroid artery was followed by a constant aggravation of the myasthenic symptoms. It seems important that the improvement of the latter occurred decidedly in advance of the favorable influence of the thymectomy upon the Basedow complex. E. S. TALBOT, JR.

#### TRACHEA AND LUNGS

**Batzdorff: Surgical Treatment of Bronchiectasis.** *Zentralbl. f. d. Grenzgeb. d. Med. u. Chir.*, 1912, xvi, No. 1. By Surg., Gynec. & Obst.

This disease is difficult to diagnose, all the physical signs being unreliable, and yet the diagnosis must be

certain before operating. The X-ray is of some help, especially where the cavity is deeply located. The best time to take the picture is in the morning, after thorough expectoration. Pfeiffer recommends soft tubes and short exposure. The patient is to withhold the breath in one exposure and take a deep one in the other.

With the appearance of fetid sputum, operation is indicated. One lung should be healthy. Hæmorrhage from the cavities is a contraindication for operation. Evacuation of the abscess is not sufficient; the operation must be radical, even to the removal of a lobe of the lung, if the cavity is deeply situated. Various methods are given, with a complete review of the literature. E. S. TALBOT, JR.

**Schönberg: Rupture of the Bronchi Due to Thoracic Compression.** *Berl. klin. Wchnschr.*, 1912, xlix, 2218. By Surg., Gynec. & Obst.

Schönberg reports three cases of thoracic traumatism in which autopsy showed rupture of the larger bronchi. The first case is that of a child of 5 years who had been run over by a carriage wheel. He was brought into the hospital suffering with intense dyspnoea and exhibiting signs of a generalized pneumothorax as well as a subcutaneous emphysema of the whole upper half of the body. Death occurred five hours later. At autopsy the mediastinal tissues were emphysematous. There was a complete rupture of the left bronchus close to the hilum of the lungs. The external layers were ruptured somewhat higher up than the mucosa. The bony portion of the chest wall showed no fractures. The second case was that of a young man of 25 years who had been run over by a heavy wagon. The patient was very cyanotic, respiration being short and strident. The right side of the chest showed signs of an extensive pneumothorax. Death resulted from asphyxia. At autopsy it was found that there had been a complete rupture of the right bronchi. The two ends of the bronchus were separated from each other by more than 6 cm. The fifth rib on the right side was broken in its posterior third without any injury to the subjacent pleura. In the third case the autopsy was on a child of 12 years who had been crushed by a carriage and had died almost immediately with symptoms of asphyxia. The left bronchus was found ruptured close to the hilum of the lung, and the two segments had been displaced 2 cm. from each other. There was, moreover, an incomplete rupture of the same bronchus a little lower down, which affected only the internal layers. There were no fractured ribs.

Schönberg has brought together 13 more cases of traumatic rupture of one or both of the chief bronchi; these with his 3 cases gives a total of 16 known cases. Of these, 12 followed an injury due to the passage of a wagon wheel over the thorax. In 8 cases the left bronchus was affected, in 6 the right, and in 2 cases both bronchi. Almost all of the cases were infants or young adults, in whom

the elasticity of the thorax allowed a marked flattening. From examinations of his cases Schönberg concludes that the rupture is due to excessive internal pressure acting upon the bronchial wall. He supposes that an involuntary defensive reflex closed the glottis at the instant of the action; and since the bony structure of the thorax in children is unable to support the pressure, the air in the lungs is greatly compressed and the bronchial wall yields. He published earlier a case of rupture of the trachea by the same mechanism. He is certain that rupture due to a broken rib cannot explain the facts. In the first place, the picture at autopsy is more that of a tube ruptured from intrathoracic pressure; and secondly, in most of the cases no fractured ribs could be found. Tiogo has supposed that certain of these cases may be due to overstretching, the great pressure on the anterior and middle aspects of the chest forcing the two lungs apart until rupture of their bronchi occur. Surgical intervention could be of value only if practiced immediately.

E. S. TALBOT, JR.

#### PHARYNX AND ŒSOPHAGUS

**Mizell: Treatment of Œsophageal Stricture.** *J.-Record Med.*, 1912, lix, 407.

By Surg., Gynec. & Obst.

In the treatment of all Œsophageal strictures that will admit the passage of a probe of any size, Mizell uses a set of instruments specially constructed with the view of producing gradual dilatation. The set of instruments consist of reinforced English bougies, a dilating electrode with and without probe point, a distensible dilator composed of rubber and silk bags placed over the end of a stomach tube, and a gauze electrode. Dilating electrodes and reinforced bougies are used until the stricture will admit the passage of a No. 30 sound. Dilatation is then continued by the alternate use of the distensible dilator and the gauze electrode, which is saturated with a solution of thiosinamin. As treatment of malignant stricture can only be palliative, a lumen that will admit a 30 to 34 sound will suffice, while in benign stricture permanent dilatation of the greater degree is sought.

**Bonniot and Bideaux: Radiologic Diagnosis of Œsophageal Diverticula** (Diagnose radiologique du diverticule de l'œsophage). *Bull. e. mêm. d. l. Soc. d. Radiologie méd. d. Paris*, 1912, Oct.

By Journal de Chirurgie.

This patient, 66 years of age, was examined with the fluoroscope as well as radiographed. For the last four years he has suffered from marked dysphagia accompanied by tardy regurgitations (partly under the control of the will), as well as abundant salivation. Lately the regurgitated food has become fetid.

The patient was placed in the left posterior oblique position and was given a dose of bismuth. This stopped at a certain point of the Œsophagus.

A second dose was given, which also stopped at the same level and increased the opacity there obtained. The patient was then given some bismuth milk, and the linear shadow of the bismuth could be seen as it flowed by the opaque spot, due to the cachets or powders previously administered. Thus the existence of diverticulum was shown.

The works of Béclere, Blum and Holzknacht have established a radiological symptomatology of œsophageal diverticula. Cases of this nature are now more frequently recognized, though the actual etiology of the cases which are not congenital in origin has not been solved. Nothing justifies the so-called classical distinction between traction diverticula and pulsion diverticula.

R. LEDOUX-LEBARD.

**Watson: Two Cases of Septic Ulcer of the Œsophagus.** *Brit. M. J.*, 1912, ii, 1182.

By Surg., Gynec. & Obst.

The author reports two cases which came under his notice at St. Bartholomew's Hospital, and which should be recorded on account of the rarity of the condition. The ulcer in the first case perforated into the left pleura; in the second case no perforation occurred. In the first case a diagnosis of perforated gastric ulcer was made, and in the second a diagnosis of gastric ulcer. In both cases acute abdominal symptoms occurred; laparotomy was performed, and nothing abnormal discovered. Both cases ended fatally, and both occurred in males over 40.

M. S. HENDERSON.

## SURGERY OF THE ABDOMEN

### ABDOMINAL WALL AND PERITONEUM

**Farr: Abdominal Incisions.** *J.-Lancet*, 1912, xxxii 561.

By Surg., Gynec. & Obst

A review of the literature shows that surgeons are more concerned with the methods of closing abdominal incisions than with the technique of making them. The names of Küstner, Rapan, Bardenhauer, and Pfannenstiel are intimately associated with the early development of the transverse incision. Its rationale is based upon the transverse direction of the fibres of the aponeuroses and the comparative importance of these structures, as well as upon the direction of the nerves.

A careful canvass of the literature was made in order to determine, if possible, the safety of the division of the rectus muscle. Many excellent authorities consider this procedure harmless when applied to the rectus, or indeed to muscles in general.

The author does not doubt that a better exposure can be obtained through the same length of incision by the transverse incision, where the rectus is cut, than by the longitudinal. If this is a safe and sane procedure, we should at once forsake the vertical incision in most of our abdominal work and use the transverse. The method has found greatest favor in Germany, is gaining ground in France, and is used to some extent in this country; but it is evidently not so popular here as abroad. In the upper abdomen the author has not hesitated to divide one or both muscles completely. In the lower abdomen preference has been given to the Pfannenstiel method. In closing the incision the tension is easily relieved by elevating the shoulders and knees. The divided muscles are not sutured, but are coapted by overlapping the aponeuroses, which have been split in the direction of their fibres. In very fat people lipectomy may be performed at the same time with great satisfaction.

In conclusion, the author says: first, that the transverse division of the rectus will give the opera-

tor the best chance to deal with every conceivable pathological condition within the abdomen, with the possible exception of immense solid tumors, with more convenience and speed and less retraction and handling of tissues with the resulting trauma and shock, than will the classical method; and excellent authorities who have used the procedure, and some whose opinions apply to muscles in general, agree that it is perfectly safe to divide the muscle transversely. Second, he realizes that this is a radical departure from the orthodox practice, and is not prepared to recommend its adoption at this time, despite its many apparent advantages and the opinions and arguments of these authorities. Third, in the procedure of Pfannenstiel we have a rational, safe and convenient method of opening the lower abdomen, which appears to have certain advantages over the vertical method and is worthy of more general use.

**Schiffman: Tumors of the Abdominal Wall** (Zur Kenntniss der Bauchwandtumoren). *Arch. f. Gynäk.*, 1912, xcvi, 543.

By Surg., Gynec. & Obst.

The author reports four cases of tumors of the abdominal wall. The diagnosis in the first was dermoid of the abdominal wall, occurring one year after supravaginal amputation of the uterus. The histologic findings showed a pure fibroma, surrounded by a chronic inflammatory capsule. The second case was diagnosed as fibroma of the abdominal wall, which appeared one and a half years after laparotomy and was found to an inflammatory fibroma with a chronic inflammatory covering. In the third case a diagnosis of fibroma of the abdominal wall was made two years after laparotomy for extrauterine pregnancy. The histologic findings were a tumor-like fibrous capsule around an abscess in the granulation tissue of an early date. In the fourth case the patient felt a tumor to the right of the umbilicus after lifting a heavy weight. The diagnosis was dermoid of the abdominal wall, and

the histologic findings revealed a fibroma, or rather an induration or sclerosis of muscle, which was almost free from inflammation.

The microscopic examination of not only the central, but also the marginal parts, of the tumors of the abdominal wall are of importance for the diagnosis. The reported cases show the possibility of spontaneous healing of abscesses located in the center of the Schoffierian tumor, with complete resorption of their contents and with simultaneous formation of large solid tumors. In operation scars solid tumors are found which have no abscess or foreign body in their center, and which represent later stages of ligature tumors. The intermuscular tissue participates to a great extent in their construction. These forms cannot always clinically be separated. The therapy consists in extirpation. The fourth case, which was caused by trauma and which was not the late result of an operation, showed no inflammatory symptoms of any importance. The muscle tissue or its interstitium here also participated in the building up of the tumor.

E. S. TALBOT, JR.

**Lejars: Gelatinous Disease of the Peritoneum of Appendicular Origin** (La maladie gélatineuse du péritoine d'origine appendiculaire). *La Semaine Méd.*, 1912, No. 50, 589. By Surg., Gynec. & Obst.

This is a report of three cases of the disease in question. In each instance operation was performed for appendicitis. In one case, following the operation for appendicitis, there was a discharge of gelatinous material through the wound. The material contained in these tumors was not as viscid as that found in similar tumors of the ovary, nor was there in any instance a tendency to malignancy. Lejars is rather inclined to think that this began as a cystic appendix, the contents of which apparently become gradually gelatinous and discharge slowly through a slight rupture in the distal end. The masses are then carried to different parts of the abdomen. In all, 20 cases have been reported, including the 3 in this report.

Following operation, with removal of the appendix, the outlook is very good. The mass consists of small cysts surrounded by a connective tissue wall which may or may not be lined with epithelium. The epithelium is sometimes cubical, sometimes columnar. One should not confuse this condition with colloid carcinoma of the appendix. In distinguishing between these two it should be borne in mind that pain is not a common or marked symptom of the pseudo-myxoma condition.

C. G. GRULEE.

**Falk: Contribution to the Experimental Study of the Radiotherapy of Tuberculous Peritonitis.** *Berl. klin. Wchnschr.*, 1912, xlix, Nov.

By Surg., Gynec. & Obst.

Falk's therapeutic experiments have been carried out wholly on animals. He has given guinea pigs intraperitoneal applications of the X-ray during

the course of laparotomies. The strength of the exposure has been sufficient to produce an intense erythema of the serous surfaces. No adhesions or ulcerations due to this radical treatment have been observed. In all, 22 animals were used. In the first series the animals were inoculated with large doses of tubercle bacilli and the operation was performed only after the disease was far advanced. At this stage, not only the peritoneum and the great omentum, but also the liver, spleen and kidneys, were studded with tubercles. In these cases the results of radiotherapy given during operation were not marked. The animals treated died as quickly as the controls; but at autopsy it was seen that the tuberculous process was less advanced on that portion of the peritoneum and the omentum which had been directly exposed to the rays. In the second series the inoculations were smaller and the period of treatment shorter; only the peritoneum and the greater omentum were involved by the tuberculous process. In all of these animals which were treated by radiotherapy complete healing was obtained, whereas of the controls, some of which had undergone laparotomy and some not, all showed at autopsy active tuberculous lesions.

M. C. PINCOFFS.

**Heffenger: Subphrenic Abscess.** *Med. Times*, 1912, xl, 321. By Surg., Gynec. & Obst.

Subphrenic abscess being a complication of a preceding condition, the symptoms of the original disease must be carefully considered and deductions drawn therefrom. A septic history stands first in importance, and secondly, thoracic symptoms at the base of the lungs. Given a history of appendicitis or other localized abdominal or pelvic peritonitis, general peritonitis, or a pus focus in any of the abdominal or pelvic organs, with subsequent development of obscure symptoms in the region of the diaphragm, suspect subdiaphragmatic abscess. These abscesses may occur at any age when of appendiceal, tubercular, or traumatic origin; but they usually occur after 40 when gastric ulcer is the cause.

When it is remembered how thin the tissues are which separate the chest from the abdomen it is readily understood why these double cavity symptoms are at once in evidence.

Besides pleural pain with rigidity of lower chest wall, râles, dullness, and fremitus are generally found. Pleuritic effusions may become marked and be followed by empyema. Infection of the pleura may occur from below the diaphragm by continuity or contiguity.

On the other hand, a basic empyema may infect the subdiaphragmatic region and cause a double abscess with the diaphragm intervening. The presence of gas in the abscess cavity, which usually occurs in about half the left-sided cases (whether perforation of a hollow viscus has occurred or not) and rarely on the right side, shows that gas may be due to the presence of a gas-forming bacillus.

either the bacillus aerogenes capsulatus (Welch) or the paracoli bacillus aerogenes.

It is possible for a subphrenic abscess to heal spontaneously through perforation into a hollow viscus or discharging externally, but expectant treatment usually results in death.

**Operation.** As these cases are of extreme gravity, and are always secondary to some other lesion or septic focus, early recognition and operation upon the causal focus would of course prevent their development. Subphrenic abscesses, however, when seen by the surgeon, are generally well developed, and large pockets of pus are usually found. Of course, immediate evacuation of these pus pockets, with free drainage, is demanded. Incision and drainage of the abscess having been done, the next step is to search out and remove the original cause. It must be borne in mind that distant pus pockets due to extensions from the original or secondary septic foci may exist from the lungs to the pelvis, and they must be found and thoroughly examined. In this connection it may be well to recall attention to the quotation from Barnard, in which he illustrates so graphically the extension of abdominal sepsis through gravitation.

A subphrenic abscess may be reached from above the diaphragm or below it, according to its most prominent presentation. When there is a decided presentation, incision should be made through it. The usual incisions are: (1) Through the anterior abdominal wall—epigastric. (2) Along the costal border. (3) Transpleural, through the chest wall and diaphragm. (4) A combination of thoracic and abdominal, after Moynihan. (5) Through the loin (Lannelongue). (6) Through the back (Lund). (7) Aspiration, with trocar and tubal drainage (Cantlie).

**Walker: Pre- and Post-Adhesions in Abdomen and Pelvis.** *J. Iowa St. M. Soc.*, 1912, lix, 1855.

By Surg., Gynec. & Obst.

Adhesions following operations within the abdomen and pelvic cavities are of interest and something every surgeon and physician must study carefully in order to avoid.

Walker has proposed the following zones for study and diagnosis: (1) The cæcal zone; (2) the pyloric zone; (3) the omental zone; (4) the pelvic zone. Especial attention was called to the omental zone, as the study in this zone shows that the omentum plays a far more important part in adhesions than is generally considered. The omentum is a great offender as well as a great defender, and the author is firmly of the opinion that in many patients wherein gastro-enterostomy has been performed, the appendix removed, or the gall-bladder drained with no favorable result, the omentum was the cause of the disturbance. Adhesions of the omentum attaching themselves to other organs do not cause any other trouble, but adhesions to the omentum itself or to the abdominal walls will cause a great deal of disturbance.

After describing the adhesions in the different zones, he says of the pelvic zone that adhesions do not cause any disturbance of nutrition, but they do cause more nervous phenomena than in any other zone, and the reason for this nervousness is almost wholly dependent upon the sexuality of the individual.

In the treatment, the author says that one who has made a careful study of adhesions can easily understand why medical men have claimed to cure adhesions through medication. The reason is obvious, as adhesions always tend to disappear; and in the majority of patients if the surgeon, the physician, and the patient all have enough patience to give nature an opportunity to assert herself in her proper manner, over 90 per cent of all patients having adhesions will entirely recover.

Patients should not be advised to have operations for the relief of adhesions performed earlier than nine months following the production of adhesions, except where nutrition is markedly interfered with or there is great pain and suffering. Adhesions readily occur following secondary operations, if the secondary operation is performed within a period of six months after the primary operation. One must wait until adhesions have ceased spreading and have become hardened, thin, and flat. Often it is better to perform other operations and leave the adhesions alone, such as extensive adhesions of the gall-bladder and liver to the stomach. In such a case gastro-enterostomy is often preferable.

**Ransohoff: Retrocæcal Hernia, with Report of Case.** *L.-Clinic*, 1912, cviii, 539.

By Surg., Gynec. & Obst.

The author describes a case of retrocæcal hernia, the eighth case of this nature on which an operation was done. The patient, aged two years, had two attacks of acute intestinal obstruction. At the first attack, which occurred when the child was eight months of age, the obstruction was relieved by operation without discovering its true nature. The symptoms of obstruction recurred when the patient was two years old. At the second operation, done at this time, a loop of small intestine was found incarcerated in a retrocæcal pouch. The loop of intestine was liberated and the pouch obliterated by dividing the lateral attachment of the cæcum. The patient left the hospital after two weeks and made a satisfactory recovery in every respect. There have been no after effects.

In the case reported, the site of obstruction was located before operation by X-ray examination. The author concludes that perhaps intestinal obstruction in retroperitoneal pouches is more common than the cases reported would indicate; that, as in the first operation on his own case, the obstruction may be relieved without discovering its true nature. The article contains a review of the cases hitherto reported and a résumé of the literature.

**Delatour: Thrombosis of the Mesenteric Vessels.***Ann. Surg., Phila., 1912, lvi, 687.*

By Surg., Gynec. &amp; Obst.

Attention is called to the fact that this is not such a rare condition as the literature would suggest. It may result from injury or be secondary to other foci of infection in the intestine, or it may be metastatic from distant foci.

The pathologic changes depend on the amount of interference with the blood supply, and may vary from small areas of necrosis of the intestinal wall with resulting ulcers to gangrene of many inches of intestine.

Initial symptoms are always acute and severe, but there are no pathognomonic signs. Pain is always excruciating. The symptoms closely resemble those of acute intestinal obstruction by band. Diagnosis is exceedingly difficult and only rarely is made before operation or post-mortem.

Four cases are cited, showing different forms of the condition. First, the very acute in which a large area of intestine is involved. These require early resection, and the mortality is high.

The subacute cases involve a smaller area, progress more slowly, and offer better results under operation. Several successful cases are referred to.

The more chronic cases involve smaller areas, but these may be multiple and result in ulceration of the intestine, with subsequent symptoms due either to obstruction, the result of contraction or, following perforation, the signs of peritonitis may appear. Three cases, showing as many different phases of the lesion, are reported under this head.

The condition is one well worthy of study, and when borne in mind in obscure abdominal cases may lead to more accurate diagnosis.

**Cantas: Cyst of the Peritoneal Wall Simulating a Hydrocele** (Kyste de la vaginale pariétale simulant une hydrocele).*J. de chir. belge, 1912, xii, 400.*

By Journal de Chirurgie.

A young man 16 years of age presented a right inguino-scrotal tumor the size of a fist. Its origin could be traced to the early years of his youth; since then it had developed slowly. It was believed that congenital hernia with concomitant hydrocele was the proper diagnosis. At operation Cantas found a hernial sac communicating with the peritoneal cavity inside of which there were two cysts the size of a pigeon's egg and of a cherry. Their pedicles started from the vaginal wall, at a point 3 cm. below the internal ring. A rapid exploration of the testicle, of the epididymis, and of the vaginal wall showed that these presented no abnormalities of any kind. The hernial sac was treated as ordinarily; the cysts were resected with the vaginal wall. Ten days later the patient left the hospital completely cured.

The contents of the cysts presented all the characteristics of hydrocele liquid. The walls of the cysts had a structure identical with that of the vaginal wall. They were composed of two layers, one of dense connective tissue and the other of

epithelial tissue, which lined the interior surface of the cysts and which was made up of pavement cells. Finally, the portion of the vaginal wall from which the pedicle depended, just like the pedicle itself, was the seat of an active inflammation which was characterized by a regular infiltration with polynuclear cells and lymphocytes and by the presence of numerous capillary vessels which had been newly formed and were gorged with blood.

Cantas believes that it was this inflammation which determined the formation of the two cysts in question. Under its influence, a sort of fold had been formed in the inguinal canal at the point in question and the edges of the fold had then joined in such a manner as to constitute a small serous parietal cyst, the inner surface being lined with pavement epithelial cells. The cysts so constituted had then developed slowly until they had reached the dimensions described above.

Mechanics like this are very logical and square well with the histological constitution of the wall of the cyst and with the chemical nature of the liquid contents.

J. DUMONT.

**GASTRO-INTESTINAL TRACT****Kerr: Volvulus of the Stomach.** *Ann. Surg., Phila.,**1912, lvi, 697.*

By Surg., Gynec. &amp; Obst.

Kerr reviews the literature of this rare condition and adds one case with autopsy to the eight recorded of true idiopathic volvulus of the stomach, i. e. volvulus not associated with diaphragmatic hernia, hourglass, inflammatory process, or tumor. The mechanism is a rotation of the stomach to the right and upward about a line carried through the cardia and pylorus as axis: the colon may be carried ahead or through rupture of the gastrocolic omentum may remain below. As the stomach rotates the pylorus is obstructed first; the cardia, when rotation is complete, is at an angle of 180°. The one common factor to all the cases is a relaxation or rupture of the ligaments of the stomach.

The probable etiology is an acute dilatation in the presence of relaxed ligaments. The clinical picture is that of acute pain and distention, with or without vomiting, which if present soon ceases; food cannot then be swallowed nor the stomach tube passed; upper abdominal distention becomes extreme, displacing the heart and everting the costal arches.

The treatment is surgical—and consists of laparotomy, aspiration of the stomach, followed by replacement and gastropexy if the patient's condition warrants.

LODER.

**Mazet: Volvulus of the Large Intestine and Its Surgical Treatment** (Les torsions pathologiques du gros intestin et leur traitement chirurgical).*Thèse d. Lyon, 1912, Nov.*

By Journal de Chirurgie.

The author is in favor of resection as a method of treatment in the different varieties of volvulus of the large intestine. He says that in the presence of intestinal gangrene, the mere untwisting of the

volvulus does not cause a disappearance of the accidents, and therefore immediate intestinal resection is indicated. But as in a large number of cases the patients are already weakened by a spreading peritonitis, it is often preferable either to resect the twisted loop and to sew the two mouths to the abdominal wall, or to leave the whole loop extra-abdominal. In early cases, in the absence of irremediable intestinal lesions, it is better after untwisting the gut to take such measures as will avoid future recurrences.

After having reviewed the different methods employed to secure this end, such as untwisting followed by fixation, entero-anastomosis, and exclusion, the author shows the advantages of intestinal resection, adding that it often has to be deferred, for in the majority of cases it is a mistake to subject patients suffering with acute intestinal obstruction to immediate intestinal resection. The first step of the operation, therefore, is to untwist the gut and create an artificial anus. This has the advantage of cleansing the alimentary canal and keeping it so until the patient is in shape for radical operation. As soon as the patient's condition warrants it, the gut should be resected. The artificial anus is liberated around its entire periphery and closed with a purse-string suture before opening the abdominal cavity.

G. COTTE.

**Stromeyer: Pathogenesis of Gastric Ulcer; a Contribution to the Study of the Interrelations of Ulcer and Cancer.** *Beitr. z. patholog. Anatomie u. z. allg. Pathologie*, 1912, v, No. 1.

By Surg., Gynec. & Obst.

Stromeyer believes that mechanical factors play a large part in the localization and form, if not in the production, of peptic ulcer. Its frequent situation on the lesser curvature, he believes, is due to the fact that at this point the alimentary bolus exercises a more marked friction. The great frequency of ulcer at the gastric orifices is to be explained by the firmer consistency of the food particles which are packed tightly together at these points. An interesting demonstration of the influence of mechanical factors is the fact that ulcers of the cardia have perpendicular margins, while in those of the pyloric region the margins are beveled. It is the mechanical factors which stamp the gastric ulcer with its characteristic physiognomy, though various etiological factors may be responsible for its first production. Stromeyer adds that many so-called indurated ulcers are really early cancers whose ulceration has been stamped with the characteristics of the peptic ulcer.

M. C. PINCOFFS.

**Jena: The Round Ulcer of the Stomach and Duodenum as "Secondary Disease"** (Das runde Geschwür des Magens und des Zwölffingerdarmes als "Zweite Krankheit"). *Mitteil. a. d. Grenzgeb. d. Med. u. Chir.*, 1912, xxv, 766.

By Surg., Gynec. & Obst.

The author's statistics show that gastric and duodenal ulcers are so frequently connected with

certain other lesions and diseases that there must be a relation between them. In many cases this can be proven, because the round ulcer appears as a secondary disease. Its origin is not caused by a transfer of the lesion through the blood-channels, but is the result of reflex nerve irritation. Experiments speak mostly for irritation of the vagus. The effects upon the stomach are important, as they show that muscle movements as well as secretion are dependent upon the nerves. Erosion and ulcer are only different stages or degrees of the same process. Erosions may be caused by cramps of the muscularis mucosæ, because they clamp the veins and arteries on their course through the mucosa. This clamping of the veins and arteries then leads either to hæmorrhagic infarct or ischemia, and these result in local digestive necrosis of the mucosa, especially if there is a simultaneous hypersecretion. The location of the round ulcer seems to be where the convulsive foldings or clampings of the musculature are of the longest duration.

E. S. TALBOT, JR.

**Barantchik: The Diagnostic Value of Painful Points on the Spine and Cutaneous Zones of Hyperalgesia in Gastric Ulcer.** *Roussk. Vrach*, 1912, xi, Nov.

By Surg., Gynec. & Obst.

Barantchik has investigated the diagnostic value of pain on pressure over the spinal processes (Openchovski signe) and of the presence of the cutaneous zone of hyperalgesia (Head signe) in cases of ulcer of the stomach. From this point of view he has studied 12 cases of ulcer, 16 of cancer, 18 cases of hyperacidia with hypersecretion, numerous cases of gastric catarrh, and several cases of hepatic disease. His conclusions are as follows: First, the presence of cutaneous zones of hyperalgesia is not constant; it is found in 75 per cent of ulcer cases and but very rarely in any other gastric affections. Moreover, the zones found in ulcer vary from those observed in other gastric disorders. The hyperalgesia is found over large segments of skin girdle-like in form. Head considered as characteristic of algæsia of gastric origin its localization in the zones innervated by the seventh, eighth and ninth dorsal segments. One or all of these may be involved. In Barantchik's cases the hyperalgesia was always limited to these segments, most commonly to the seventh. It was always more marked on the left than on the right side, and there were 2 cases where all three segments were involved on both sides. In one case the hyperalgesia was present over only the seventh portion of the left dorsal segment. In other gastric disorders one finds only certain painful points in these zones. In front, these are present along the costal margin between the xiphoid process and the anterior axillary line. Behind, they are most common between the angle of the scapula and the lowermost rib. In all the ulcer cases it has been proven possible to excite pain by pressure on the spinous processes — most usually (9 cases) between the third and seventh dorsal vertebræ; more rarely

between the seventh and the eleventh (1 case), or over the twelfth (2 cases). These painful points are very rare in other conditions. In four cases which were operated and in one which came to post-mortem the ulcer was found on the lesser curvature. In these cases the tender points on the spinous processes were distributed as follows: between the fifth and seventh dorsal (1 case), between the first and seventh (1 case), between the fourth and sixth (2 cases), and between the fourth and seventh (1 case); in another case the ulcer was found on the greater curvature near the pylorus, and in this case the tender area lay between the tenth dorsal and the second lumbar vertebrae. Barantchik found paravertebral tender points (Boas signe) in only two cases. He feels convinced of the value of the spinous points of tenderness in the diagnosis of gastric ulcer. M. C. PINCOFFS.

**Alvarez: New Surgical Treatment of Ulcer of the Stomach** (Nouveau traitement chirurgical de l'ulcère de l'estomac). *El Siglo Medico*, 1912, Nov. By Journal de Chirurgie.

The author in 1905 published a description of a new treatment for gastric ulcer. It seems to have been completely forgotten. He reports 8 new cases showing the results that may be obtained from his method of treatment. In 1897 he had an opportunity of treating a 40-year-old patient who showed at the level of the seventh, eighth, and ninth vertebrae a small orange-sized tumor. For 38 months she had suffered with gastric pains, vomiting, epigastric tenderness, and almost complete intolerance for food. Her stomach would tolerate milk only. The tumor was removed and the patient ceased to have gastric distress from the day of the operation. Five years later the recovery persisted.

Astonished at this unexpected result, Alvarez could not help thinking that there was a direct relation between operation and cure, and concluded that the result was due to division of the nerves in the region of the operative field. He decided to renew the experiment in a woman who had a typical gastric ulcer. Though she had no tumor, he operated in the same manner and in the same place, dividing all the nerves of that region. From the fourth day on, the pain, gastrorrhagia, and vomiting ceased, and for six months cure was obtained. After six months, the symptoms recurred. He reports 8 new observations.

The first, a female, 27 years old, had suffered for the past three years with gastric ulcer; vomiting, hæmatemesis, and gastric intolerance. Under chloroform anæsthesia, he made a cutaneous incision parallel to the spinous processes, extending from the sixth rib to the ninth rib at a distance of two fingers' breadth from the median line. The aponeurosis of the muscular mass and of the muscles in the sixth, seventh and eighth intercostal spaces were divided and the corresponding nerves exposed. These nerves were stretched through moderate traction exercised from the center to the periphery.

The same operation was performed on the opposite side. The second day the patient had intense pain along the course of the intercostal nerves. Feeding was commenced on the third day; on the eighth day, soups, eggs, and fish were given and perfectly tolerated. A mild intercostal neuralgia persisted; all the other symptoms disappeared. The analysis of the stomach contents showed lessened acidity.

The second, a male, 49 years old, had suffered for 12 years from dyspepsia. He complained of pain, vomiting, hæmatemesis, and intolerance of food. The sixth, seventh and eighth intercostal nerves on both sides were stretched. Feeding was begun gradually, and all the symptoms disappeared.

The third was a male, 40 years old. For the past eight months he had suffered from gastric ulcer and hæmatemesis. The fifth, sixth, and seventh intercostal nerves were stretched and a segment of the fifth was resected. This intervention upon the fifth nerve was the result of a suggestion made to the author by Pawlow, who considers that the fifth nerve has a greater influence than the others upon gastric secretions. The results were very satisfactory from all standpoints.

The fourth, a male, 38 years old, had an ulcer of the stomach; vomited and suffered from hæmatemesis. The fifth, sixth, and seventh nerves were stretched and the fifth resected. On the day following the operation neuralgia and hiccough appeared and lasted eight days. He made a very satisfactory recovery.

The other cases were of the same nature and gave him happy results. All the patients were benefited by the operation, recovery being somewhat later in cases of long standing. Will these cures be permanent? The cases are too recent to permit positive statements. Nevertheless, the first cases are all about six months old, and recovery persists. As to the action of nerve-stretching upon the chemistry of the gastric juice, the author explains it as follows: In gastric ulcers reflex gastric secretion is very abundant and very acid. It is under the dependence of the sympathetic. By stretching the intercostal nerves a more or less marked disturbance in the sympathetic is induced and the reflex secretion is modified. SALVA MARCADÉ.

**Roberts: The Elementary Hypersecretion of Chronic Ulcer, as Shown by the Lactose Test-Meal.** *J. Am. M. Sciences*, 1912, cxliv, 715. By Surg., Gynec. & Obst.

The test-meal consists of 300 cc. of weak tea or water to which is added 30 gm. of lactose, plus two unsalted and unsweetened crackers. At the end of an hour a part of the chyme is recovered, and then a definite amount of water is poured into the stomach through the tube and mixed with the chyme by churning it back and forth. From the difference in the acidity of the two samples the total count is calculated, as suggested by Mathieu. The lactose content in the first portion is then accurately determined, and from that is determined the amount of

sugar remaining in the stomach, also the amount of chyme which is made up of test-meal residue and that which is made up of gastric secretion. Repeated tests by the author in the same individual show that the results are consistent. For comparison a number of cases were recorded, and if most of the test-meal residue is more than 50 cc. gastric motility is below par. The ratio of test-meal residue to gastric juice residue shows about 1 to  $1\frac{1}{2}$ . If the two are equal or the gastric juice is less than the test-meal, there is deficient secretion. In the 13 cases of enteroptosis there was motor insufficiency, and in quite a large proportion the secretion was low. In 12 cases of ulcer the hypersecretion was marked.

The author concludes that hypersecretion is strongly suggestive of chronic gastric ulcer. As yet too few cases have been studied to say in just what other conditions hypersecretion occurs.

H. A. PORTS.

**Gwathmey: Surgical Treatment of Gastric and Duodenal Ulcers.** *Va. Med. Semi-Monthly*, 1912, xvii, 373.  
By Surg., Gynec. & Obst.

Gwathmey emphasizes the necessity of distinguishing between acute ulcers and acute exacerbations of chronic ulcers of the stomach and duodenum. This he says can be done by a knowledge of the symptoms coupled with carefully taken histories.

Acute ulcers are medical rather than surgical, inasmuch as 80 per cent (Fenwick) recover under medical treatment. If, however, in the course of medical treatment there should be a lack of prompt subsidence of symptoms, or if increasing pain, tenderness and rigidity indicate a progression toward acute or subacute perforation, a surgical consultation should be held at once. Chronic ulcer, on the other hand, is a surgical affection rather than a medical. An operation should be resorted to after one or two medical courses have failed to give permanent relief.

In the face of some of the abdominal catastrophes, such as fulminating pancreatitis, or ruptured ectopic pregnancy, the wisdom of a primary or a secondary operation is still debated, but there is no divergence of opinion concerning a perforated gastric or duodenal ulcer — an operation, whose promptness is limited by the time necessary to make suitable preparation, is indicated.

The use of cathartics is strongly advised against, and morphin is to be used after a diagnosis has been made. Attention is drawn to the fact that chronic obstructive symptoms, followed by a perforation, are more rapidly fatal because of the toxic gastric contents, and lowered resistance of the patient (Mitchell).

A free incision (preferably a right rectus) permits rapid operation, and speed spells success in such a dangerous circumstance. The exudate of serum, and the stomach contents are removed by sponging. The perforation is located and sutured by a purse-string suture of catgut, and reinforced by one or two

Lembert or Cushing sutures of silk or linen. Where possible the caliber of the gut must be considered, and this is best conserved by having the line of suture at right angles to the long axis of the gut. Should the rent prove to be so large or the induration so great as to preclude closure by suture, the opening may be sealed by suturing omentum or mesentery over it. The stomach and duodenum should be reviewed for other perforations, and if the patient's condition is satisfactory a gastro-jejunostomy or a pyloroplasty may be performed. It should be borne in mind that the immediate indication is to save life and that the relief of the underlying condition is a secondary consideration. Drainage is indicated except in very rare instances where soiling is practically nil and the after care is the Fowler-Murphy peritonitis treatment.

Chronic ulcers are treated by gastro-jejunostomy or excision or both. If there is much pyloric obstruction, a pyloroplasty of the Finney variety may be used. We advocate the no loop gastro-jejunostomy of the Mayo-Moynihan type. The ulcer should be excised and infolded directly or indirectly by suture, and reinforced by omentum and mesentery. The hourglass stomach resulting from ulcer should be treated by an excision of the ulcer and by an appropriate plastic operation.

Preliminary to operation we should give the patient frequent lavage, mild saline cathartics, abundant water, glucose by rectum, and twelve hours before operation two ounces of olive oil.

Post-operative treatment should consist of lavage for persistent nausea or vomiting. This, however, should be done with extreme caution. Saline by rectum and hypodermoclysis, water by mouth as nausea ceases, liquids in small quantities on second or third day, and careful feeding with the avoidance of unduly coarse food for a period of several months.

**Lecène: Five Cases of Perforated Ulcer of the Stomach or of the Duodenum, Which Were Operated Early and Cured** (Cinq cas de perforations d'ulcères de l'estomac ou du duodenum opérés précocement et guéris). *La Presse méd.*, 1912, xx, 865.  
By Journal de Chirurgie.

By publishing these five cases Lecène wants to demonstrate once more that in acute peritonitis due to perforation the fate of the patient depends in a unique manner upon the timeliness of the intervention and the effective closure of the perforation which has been the cause of the peritonitis. The timeliness of the intervention is subordinate to a timely diagnosis of the perforation. Now this itself is easy: the chief sign, which is constant and never deceives, is the reflex defensive contraction of the muscular wall of the abdomen. This symptom, one might say, is conceded by all to be of the utmost importance, but it is daily overlooked until so much valuable time has been lost that symptomatic treatment can no longer be employed.

During the course of ten years Lecène has had occasion to perform an emergency operation upon

five patients who were affected with acute diffuse peritonitis, which in four cases was due to the perforation of a gastric ulcer and in one case to the perforation of a duodenal ulcer. All these patients were speedily operated, within from six to twenty hours after the first appearance, always dramatic, of the symptoms, and were relieved of the peritonitis.

In three of the cases the diagnosis of perforation of a gastric or a duodenal ulcer was almost certain, since the history of gastric complaint of the patients was so clearly established. On the other hand, in the other two cases the absence of any signs whatever that would point to earlier pathological gastric conditions made the diagnosis much more difficult. Thus the predominance of painful symptoms in the right iliac fossa in these two cases even made the diagnosis of acute appendicitis more probable than that of a gastric or duodenal perforation. So, indeed, the first incision was made in the right iliac fossa; and it was not until the peritoneum had been opened and the small number of lesions found on the appendix that the diagnosis was corrected. No time was lost in searching for the perforation, which proved in the first case to have its seat on the stomach, and upon the duodenum in the second case.

It is not sufficient, however, that the intervention be timely — it must also be rational; that is to say, it must look above all to the complete removal of the cause of the peritonitis. In the particular class of cases which concern us here it is absolutely necessary to secure a hermetic closure of the gastric or duodenal perforation. To obtain this essential and vital result, it will not do to content ourselves with haphazardly closing the perforation by means of a few stitches, plugging it more or less completely with a bit of epiploön, or coupling it to the liver. We must rather, whenever it is possible, excise the ulcer and close the opening with a double line of suture, according to the established rules; if this excision cannot be carried out, it will be necessary to bury the ulcer beneath a thick and very carefully prepared seromuscular packing.

We add that in all the cases in which the operation is performed in time complementary gastro-enterostomy is a very good precautionary measure. Lecène has carried out this gastro-enterostomy in four cases; in the fifth case the gastro-enterostomy had already been made. Quickly executed on a subject who still retains his power of resistance, this immediate gastro-enterostomy offers the great advantage of putting the stomach into good condition for emptying itself; it also permits us to obtain an extensive and safe burying of the perforation, for we need no longer be concerned about any stricture formation at the point of invagination of the perforation.

So far as drainage is concerned, Lecène believes that drains placed in the region of the epigastrium are useless, to say the least, and he contents himself with draining Douglas' pouch by means of a small suprapubic counter-opening. This drain may remain in place for from 48 hours to three days, as

long as one sees that the patient is carefully kept in a sitting position in his bed, or if aspiration is employed; if the drain is withdrawn on the fourth or fifth day it will not complicate in the least the subsequent operations, and it also has the advantage of preventing a secondary collection of pus in Douglas' pouch.

J. DUMONT.

**Davis and Deming: The Effect of Scarlet Red on Defects in the Mucous Membrane of the Stomach.** *Bull. Johns Hopkins Hosp.*, 1912, xxiii, 332.  
By Surg., Gynec. & Obst.

While using scarlet red in the treatment of ulcers of varying etiology, on the skin, and on mucous membranes, it occurred to the authors that possibly ulcers of the alimentary tract, especially ulcers of the stomach, might be benefited by the use of scarlet red if it could be brought into contact with the ulcerated surface. Before attempting to administer this substance to patients suffering with gastric ulcer some experimental work on animals was undertaken, which was followed by a number of operative experiments. They first investigated the toxicity of the substance when given internally in order to familiarize themselves with its effect on the general health of the animals as regards weight, excretions, hæmoglobin, etc. These experiments were mostly carried out on dogs. The animals were given doses of varying sizes, during periods of two or three months. In some instances the scarlet red was administered in olive oil, and in others the powder was administered in capsules.

Briefly stated, these experiments led the authors to believe that internal administration of scarlet red, either in oil solution or as dry powder, has no toxic effect, either on the economy as a whole or on any special organ. There was no purgative action, and the urine was unchanged. There was no abnormal stimulation of the mucosa anywhere in the alimentary tract. The mucous membranes of the bladder and gall-bladder were unaffected. Microscopic examination of the various organs and tissues showed no change which could in any way be traced to the dyestuff.

Experiments were also undertaken to determine the toxic effect of scarlet red in the lax subcutaneous tissue and in the peritoneal cavity. Here, likewise, no untoward symptoms were observed. Small quantities of scarlet red-oil, injected intraperitoneally, were encysted as any other foreign body. When larger quantities of the oil or oil emulsion were injected a general peritonitis followed. There was only local staining of the fat which came in contact with the oil. This material acted in the abdominal cavity as any other non-absorbable irritating powder would, and had no specific toxic effect.

After these preliminary experiments the authors concluded that the toxicity of the dyestuff used was a negligible quantity, and felt justified in proceeding with the operative experiments. The stomach was chosen as the site of the operative defects, on account of its accessibility and also because of the prevalence of ulcers in this organ.

Fifteen sets of experiments were done on thirty dogs. Under ether anaesthesia a small portion of the mucosa was excised quite close to the pylorus, in each instance as near as possible in the same situation and of the same depth. Their experiments may be divided into three groups: First, those fed with the oil solution of scarlet red; second, those fed with olive oil without scarlet red; third, those fed with dry powder.

Those fed with the olive oil alone acted as a control on the other two groups. Briefly, the author has found that in Group 1 (fed with scarlet red-oil solution), the defects made artificially in the feeders were further advanced toward healing than in corresponding controls in four out of five instances. In Group 2 (fed with pure olive oil), similar defects in feeders were further advanced than in corresponding controls in three out of five instances. In comparing the advancement of the healing in the feeders in the duplicate experiments in these two groups, they found that the epithelial stimulation was more marked in those animals fed with the scarlet red-oil solution than in those fed with pure olive oil. In Group 3 (fed with dry powder), similar defects in feeders were further advanced toward healing than in corresponding controls in only two out of five instances. The authors conclude that:

The dyestuff used in this series of experiments is not toxic, and apparently has no deleterious effect on either dogs or rabbits.

When given by mouth it is a fat-selecting vital stain. In the course of months the stain is gradually eliminated. Subcutaneous and intraperitoneal injections stain only the fat in actual contact with the scarlet red-oil solution.

It is difficult to say from these few operative experiments whether the scarlet red has or has not a definite stimulating action on the epithelium of defects in the gastric mucosa. However, the scarlet red-oil solution caused a more rapid and better developed growth of epithelium in the group in which it was used than occurred in the duplicate group where plain olive oil was used.

The results with dry powder were not so favorable experimentally, but this may have been due to the fact that the material was not continuously in contact with the denuded area.

They were unable to determine the relative effect of the scarlet red on chronic gastric ulcers, as it was impossible to produce chronic ulcers in dogs with controls of exactly the same size.

Their experiments are suggestive, and as this dyestuff may be safely administered they feel it deserves a thorough clinical trial. G. E. BEILBY.

**Schlesinger: Wedge-Shaped Resection of the Stomach for Gastropotosis** (Die Behandlung der Gastropotose durch keilförmige Resektion in der Pars Media des Magens). *Mitteil. a. d. Grenzgeb. d. Med. u. Chir.*, 1912, xxv, 527.

By Surg., Gynec. & Obst.

In a case of gastropotosis in a woman 51 years old, the author resected the median part of the stomach

between the pylorus and the cardia, thus removing the narrow part where the walls were touching each other, reducing the length of the stomach to a little below the normal, and making room for the normal position of the other abdominal organs. The patient made an uneventful recovery, has had no trouble from the stomach since, has a good appetite, and feels best when she takes frequent meals of small quantity of food. The author warns against resecting too near the pylorus, because the wall of the stomach is more muscular there and its preservation is valuable for good motility. There should be just enough resected to give the stomach the normal shape. Only a small number of gastropotoses resist any internal therapy and they have the clinical picture of atony. When clinical observations show that the symptoms are really caused by the stomach, and continued internal therapy fails, operation is indicated. The median portion of the stomach in these cases is weakest functionally and its evacuation is delayed, causing pressure on the colon with resulting constipation. Resection relieves all this.

E. S. TALBOT, JR.

**Röpke: A New Method of Gastrostomy and Esophagoplasty** (Ein neues Verfahren für die Gastrostomie und Esophagoplastik). *Zentralbl. f. Chir.*, 1912, xxxix, 1569. By Surg., Gynec. & Obst.

The author describes a gastrostomy which he performed according to the method of Jianu. Jianu developed the procedure experimentally, and as far as Röpke knows, it has not been used practically. He describes the operation as follows: An incision was made in the median line above the navel. A tumor was found in the region of the cardia (inoperable carcinoma). The omentum was detached from the greater curvature, carefully avoiding injury of the gastric vein and artery. The vessels were ligated near the pylorus and severed. A lock-stitch suture is begun at this point,  $2\frac{1}{2}$  finger-breadths from the greater curvature. This suture unites both anterior and posterior walls and passes up to the fundus far above the point where the left gastric artery approaches the greater curvature. The portion of stomach nearest the greater curvature is now detached. This detachment begins close to and in front of the pylorus and runs parallel with the suture to its upper end. The detached portion is reflected outward and wrapped in gauze. The suture line is invaginated with seromuscular sutures. This same suture is continued upon the detached portion, transforming it into a tube communicating with the stomach. The abdominal cavity is closed up to the point of egress of the tube. At this point the stomach is attached to the abdominal wall by sutures, carefully avoiding the vessels. The suture of the tube is then completed. A small sponge tied to a piece of silk is introduced into the free end and the end closed over it by invagination sutures. A transverse incision is made below the clavicle, the point of incision varying with the length of the tube—in Röpke's case 22 cm. The pectoralis major is

split bluntly through the incision and a subcutaneous tunnel made reaching to the upper angle of the abdominal wound. The suture protruding from the tube is grasped with the forceps and the tube pulled through the tunnel. Complete closure of the abdominal incision follows. The tube is attached to the incision in the chest, the invaginating sutures are removed, also the sponge, and the mucous membrane united to the skin margins.

The wounds healed by first intention. Röpke believes he has seen contractions which resemble peristalsis in the newly formed tube during passage of food. He thinks that this tube may be used with better advantage for the formation of a new œsophagus than the material heretofore in vogue. The tube is longer, its nutrition is assured, and it can be brought into communication with the cervical portion of the œsophagus.

E. C. RIEBEL.

**Tatlow: Jejunostomy in Combination with Anterior Gastro-Enterostomy.** *Lancet*, Lond., 1912, lvi, 1434. By Surg., Gynec. & Obst.

Jejunostomy is an operation which is comparatively rarely performed. The author reports two particular cases showing a fresh use for jejunostomy. These are cases of chronic gastric ulcer where, owing to extensive firm adhesions between the posterior surface of the stomach and the pancreas, the ideal procedure, namely excision, cannot be performed. In these cases gastro-enterostomy is the routine treatment, owing to the impossibility of getting at the posterior surface of the stomach. Experience teaches that these very large chronic ulcers, surrounded often by a mass of inflammatory tissue, do not in every case heal after an anastomosis has been made. They appear to need a more complete rest than a mere gastro-enterostomy offers them. It is for cases such as these that jejunostomy, combined with the modified Roux gastro-enterostomy, is suggested. Moynihan has performed the combined operation in five instances and the author reports two of these cases. In both a large ulcer was found on the posterior wall of the stomach adherent to the pancreas. An anterior gastro-enterostomy was done in each case, and the patients were entirely relieved for a time. A recurrence of the old symptoms suggested the advisability of more complete rest, and a jejunostomy was done after the Witzel method. Although only a few months have elapsed, there is no return of symptoms.

D. C. BALFOUR.

**Marinacci: Treatment of Intestine Deprived of Its Mesentery by Intestinal Invagination** (Traitement de l'intestin privé de son mésentère par l'invagination intestinale). *Il Policlínico*, 1912, Nov. By Journal de Chirurgie.

The author refers to various attempts which have been made to prevent necrosis of an intestinal loop deprived of its mesentery and cut off from its source of nutrition. There is a like difference of opinion as to whether resection should be made

and carried out in a thorough manner or whether a more simple operation will suffice. Spontaneous cure occurs by elimination of the invaginated coil and by an adhesive peritonitis between the two intestinal extremities.

The author has sought, on the advice of Prof. Alessandri, to determine whether invagination could not be utilized as an easy and rapid medium. He argued that it was logical to admit that the rapid necrosis of an intestinal coil, deprived of nutrition and invaginated, would lead to the re-establishment of the continuity of the gut before grave circulatory troubles had occurred.

He has made 25 experiments upon animals in order to learn if it were possible for them to survive after an invagination of a coil of greater or less length of intestine deprived of its mesentery. Various procedures were employed to detach the mesentery from the intestine; to effect it, invagination, always descending, and likewise various sutures were employed to secure the two ends of the intestine at the level of the neck of the invagination. The small intestine was selected in 21 cases and the large intestine in 4. Dogs were used in all the experiments. Ten animals are still alive, while 15 died almost immediately after intervention.

Fæcal circulatory disturbances after this operation need not be feared unless adhesions be present or be formed between neighboring coils and the one operated on. Late stenosis need not be feared. The author found that it was possible to eliminate a coil 8 cm. in length. This was the maximal length that could be safely eliminated. The larger the intestine, the greater the length of intestine involved, the easier it was to produce invagination and the less the danger of necrosis of the invaginated portion. The fate of a loop deprived of its mesentery is its more or less rapid necrosis and elimination.

From the results of these experiments the author believes the operation to be feasible, but one having high mortality. It will always be a procedure of limited application.

A. BASSET.

**Le Moniet: Ulcers of the Duodenum with Stenosis of the Pylorus and Œdema of the Gall-Bladder; Cholecystectomy, then Gastro-Enterostomy; Recovery** (Ūlcères du duodenum avec sténose du pylore et hydropsie de la vésicule biliaire; cholécystectomie, puis gastro-entérostomie; guérison). *Bull. et mém. d. l. Soc. d. Chir. d. Paris*, 1912, xxxviii, 1219. By Journal de Chirurgie

Le Moniet reports the history of a man 36 years of age, who for some months had presented all the signs of a gastric ulcer, when the symptoms of pyloric stenosis began very rapidly to manifest themselves. The man was reduced to such a state of emaciation and feebleness that he went to a hospital, where a diagnosis of gastric dilatation with stasis was made; The examination also revealed the presence of a large tumor the size of an orange, and to this the gastric stasis was attributed (pyloric stenosis by compression).

The operation verified the diagnosis of oedema of the gall-bladder, but it also showed that this did not produce any compression in the duodenopyloric region. On the other hand, after its evacuation by puncture the presence of a cicatricial band was revealed. Starting from the first portion of the duodenum, in the neighborhood of the pylorus, it extended above and outward from the cystic canal, investing the first portion of it and obliterating it completely at this point, so that a speculum could not be passed in between the bladder and the common bile-duct. The center of the adhesions was found to be a cicatricial nucleus occupying the duodenal wall. The patient being in a condition too serious to undergo an operation of any complexity, Le Moniet limited himself to a cholecystectomy. Two months later, when the patient's condition had improved, he performed a gastro-enterostomy. To-day the patient has completely recovered.

Apropos of this case, Auvray reviewed the complications which affect the biliary tract during the development of a duodenal ulcer. These represent obliteration of the common bile-duct and of the duct of Wirsung by an ulcer located in the neighborhood of the ampulla of Vater; ulceration of the common bile-duct and of the gall-bladder caused by the perforation of a duodenal ulcer, associated with the formation of choledochous or choledochoduodenal fistulæ; stricture of the bladder by cicatricial bands etc. Finally he cited various cases illustrating these pathological conditions which have been reported in the literature, and also the various operative procedures which have been employed in their treatment.

Gosset has recently operated a woman whose case deserves to be mentioned with Le Moniet's case and which at the same time is instructive clinically and therapeutically.

This patient, 55 years of age, had during the past twenty years, presented very clear symptoms of cholelithiasis. In addition, for a number of years she had presented a symptom-complex, which was considered to be caused by a duodenal lesion. Radioscopy revealed the existence of a dilatation of the duodenum above a point of stricture which corresponded precisely with the seat of maximum spontaneous pains. The patient was operated after a tentative diagnosis of duodenal ulcer. At operation Gosset found a normal stomach, a normal pylorus, and a normal duodenum, without trace of either cicatrices or strictures. On the other hand, in the region of the gall-bladder, lodged beneath the liver and directed transversely, he found a series of calculi which filled and distended the fundus. The latter, turned toward the left, was closely adherent to the second portion of the duodenum the breadth of three fingers below the first duodenal curvature; the gall-bladder, by reason of its rotation to the left, pressed heavily against the right border of the duodenum. After discovering the pathological condition cholecystectomy was performed, and in

addition, gastro-enterostomy, since there was a probability of duodenal ulcer. An uneventful recovery resulted, the patient getting up on the eleventh day.

Did this patient have a simple lithiasis of the gall-bladder, or did she also present a duodenal ulcer? This second lesion is most probable; but what develops from this case is that whenever the radiograph reveals the presence of a duodenal stricture it is not only most necessary to take into account the possibility of an ulcer of the duodenum, but also the possibility of an external compression brought about by the gall-bladder, even when the latter cannot be felt by palpation, unless the two lesions coexist.

From the therapeutic point of view, an operation on the gall-bladder appears necessary. So far as complementary gastro-enterostomy is concerned, it so little aggravates the prognosis of the operation that its performance is always indicated, and it should be carried out at the same time as the other operation.

J. DUMONT.

**Gruber: Peptic Duodenal Ulcers** (Die Lehre über das peptische Duodenalgeschwür). *Mitt. a. d. Grenzgeb. d. med. u. Chir.*, 1912, xxv, 465.

By Surg., Gynec. & Obst.

In 5884 post-mortem dissections performed from 1899 to June, 1912, 7.7 per cent had peptic ulcers; 1.5 per cent were in the duodenum, 6.7 per cent in the stomach, and 1 per cent in the œsophagus. The bodies were those of the poorer classes. These statistics do not, however, conform with those of Moynihan, the Mayo brothers, and M. Robson. The histories of 88 cases from the Munich clinic and 52 cases from the Strassburg clinic are given in detail. In these 140 cases of duodenal ulcer, 17 per cent died of perforation. Gruber emphasizes that circulatory changes in the duodenal mucosa is the chief cause of ulcer. Those with arteriosclerosis may have a peptic ulcer and the clinical signs be absent. It is discovered only when there is an occult hæmorrhage; this is especially so in old people. The anterior duodenal wall is the usual location of the ulcers.

E. S. TALBOT, JR.

**Hörrmann: The Necessity of Prophylactic Appendectomy During Gynecological Operations** (Die Notwendigkeit der prophylaktischen Appendectomie bei gynäkologischen Operationen). *München. med. Wchnschr.*, 1912, I, 2503.

By Surg., Gynec. & Obst.

During the last three years the author has removed the appendix primarily in 32 cases and secondarily in 59 cases of 208 gynecological operations with the best results. On the other hand, relapses, and later appendicitis, quite frequently occurred when the appendix was not removed at an earlier gynecological laparotomy. He concludes from the above that: (1) The appendix should be removed with every gynecological operation; (2) it is not sufficient to remove only the macroscopically

changed appendix, for severe inflammatory changes often escape palpation and sight, and a diagnosis is only possible after microscopical examination; (3) in cases of malignant tumors, in emergency operations, in patients over 60 years of age or in extensive operations of long duration, the removal of the appendix may be omitted, but these are the only contraindications for removal.

E. S. TALBOT, JR.

**Becker: Appendicitis in a Left-Sided Inguinal Hernia in an Infant.** *Arch. f. Kinderh.*, 1912, lix, Nos. 1 & 2. By Surg., Gynec. & Obst.

According to the author, this is the only case on record where an inflamed and partially gangrenous appendix constituted the contents of the sac of a left-sided inguinal hernia in an infant two months old. Examination of the patient revealed an inflamed, hard and very tender swelling occupying the left inguinal region. Both testes were in the scrotum. Temperature 38.8° C. The diagnosis lay between incarcerated hernia, hydrocele communicans, or abscess. After dividing the skin and fascia, a sac filled with serous fluid protruded. The gangrenous appendix was lodged in the sac. Complete recovery followed the removal of the appendix. The author ascribes the condition to an abnormally movable cæcum.

E. S. TALBOT, JR.

**Sugi: Changes in the Appendix with General and Peritoneal Infection** (Ueber Veränderungen des Wurmfortsatzes bei allgemeiner Infection und bei Peritonitis). *Virchow's Arch.*, 1912, ccx, 294.

By Surg., Gynec. & Obst.

After a consideration of 27 cases of peritoneal and 13 of general infections, Sugi comes to the following conclusions: In general infections from staphylococci and streptococci, emboli may be formed in the appendix without any surrounding reaction. The emboli may locate in any layer of the appendiceal wall, more frequently in the mucosa or submucosa. The lymph follicles are not the place of predilection for these emboli. Hæmatogenous metastatic abscesses may develop in all layers of the appendix. Extra- and intranodular hæmorrhages are found in the mucosa and submucosa. Microscopically they are free from bacteria. In acute general miliary tuberculosis, hæmatogenous metastatic miliary tubercles may be found in any of the layers of the appendix.

In acute purulent peritonitis, inflammatory changes are found in the appendix corresponding to the duration of the peritoneal infection. In most cases these changes are confined to the serosa alone or to the serosa and the outer layers of the muscularis externa; the entire muscularis externa is seldom attacked, and still more rarely the muscularis interna. Exceptionally the inflammatory process may penetrate the submucosa to the mucosa. The migration takes place in such cases through the lymph vessels and clefts in the tissue. The author's

cases of this kind all dealt with children, and the cause of the process was the streptococcus pyogenes. The entire appendix may be attacked, or the distal end may be affected worse than the proximal. In the majority of cases the infection apparently comes from the mesenterium, and is more intensely developed at the junction of the mesenterium with the appendix.

E. S. TALBOT, JR.

**Depage and Mayer: Radical Treatment of Cancer of the Rectum** (Traitement chirurgical du cancer du rectum). *J. Med. d. Brux.*, 1912, Nov.

By Journal de Chirurgie.

These authors discuss the etiology, diagnosis, and pathological anatomy, as well as their personal ideas of the treatment of this condition. They insist first upon the importance of pre- and post-operative care. They do not habitually perform a preliminary artificial anus: they believe that the influence of this operation as a means of disinfecting the rectum is illusory, and that the presence of an artificial anus compromises asepsis in cases of abdomino-perineal intervention and interferes with the maneuvers to lower the rectum. An artificial anus is made only in cases in which the cancer is immobilized by a mass the nature of which cannot be definitely determined clinically, and which may be inflammatory and non-neoplastic, and disappear after the colostomy to the extent of rendering the rectum extirpable. In all their operations upon the rectum, except those which are amenable to the abdomino-perineal operation, they place the patient in the ventral position. In cancer of the inferior portion of the rectum they perform the operation of Lisfranc-Quénu-Baudet.

If the tumor is in the middle portion of the rectum, or even towards the upper portion of the ampulla, they use the sacral method. They make a median cutaneous incision extending from the middle of the resected sacrum to within 3 or 4 cm. above the anus. The coccyx is liberated and the rectum, circularly detached from the neighboring organs, is ligated below the tumor by a strong silk ligature, below which it is cut. A supplementary silk suture closes the superior segment, which is then detached from its lateral and anterior adhesions and progressively lowered. One should be careful to seize the vessels and divide the surrounding tissues so as to save as much as possible the collaterals and thus not compromise the rectal circulation. In the course of the operation the peritoneal cul-de-sac is opened. It is carefully sutured when the lowering of the bowel is considered sufficient. In fleshy subjects with short mesos, descent of the rectum is at times difficult. One should in these cases lengthen the segment by nicking the longitudinal bands of the intestines so as to unfold it, the gut, accordion-like. When this has been done the two ends have to be united. These authors invaginate the gut, carrying the proximal end through the anal portion and fixing it by a few stitches to the skin. If the tumor is near the sphincter, abrade the

mucosa of the entire inferior segment and invaginate the superior gut segment through the sphincter. The wound is left open and packed.

In rectosigmoidian cancer, or a cancer involving the entire rectum, the authors use the combined abdomino-perineal method. They practice a high peritonization of the abdomen. After transversely incising the abdominal wall above the pubic symphysis, they detach the peritoneum of the superior lip and fix it by a few sutures to the posterior pelvic peritoneum.

Golpel has performed 21 of these abdomino-perineal operations with only 3 deaths. The authors insist that the prognosis of intestinal cancer treated surgically shows during the last few years a very marked improvement. PAUL MATHIEU.

**Elting: The Treatment of Fistula in Ano, With Especial Reference to the Whitehead Operation.** *Ann. Surg.*, Phila., 1912, lvi, 744.

By Surg., Gynec. & Obst.

Tuberculosis plays a comparatively unimportant rôle in the etiology of fistula in ano, not more than 10 per cent of the cases being of this variety. Most fistulæ originate in an infected hæmorrhoid, and the infection is of the usual pyogenic character. Practically all persistent fistulæ in ano communicate with the bowel, although in many cases this communication may be microscopical rather than macroscopical. Two cardinal principles should underlie the treatment of fistula in ano: first, the separation of the fistulous tracts from the communication with the bowel; second, the adequate closure of the communication, with the removal of all the diseased tissues in the rectum. The treatment proposed by the writer consists of a Whitehead operation carried just above the level of the internal opening of the fistula, or, if no internal opening is demonstrable, to the level of the insertion of the levator ani muscle. The healthy skin and mucous membrane are approximated with interrupted silk sutures and the fistulous tracts carefully curetted and lightly packed with gauze. Complete healing is usually obtained in from 10 to 20 days. This study is based upon 105 consecutive cases treated by this method, with cure of the fistulæ. Of these 105 cases, all of which were carefully examined histologically, only 9 proved to be tuberculous.

From his studies and experience the writer draws the following conclusions:

First, that probably not more than ten per cent of fistulæ in ano are tuberculous, and that a great majority of these are secondary to demonstrable tuberculosis elsewhere in the body, usually in the lungs. Second, that a widespread and often destructive dissection and removal of the fistulous tracts in the perirectal tissues is unnecessary. Third, that it is possible to cure fistulæ in ano without injury to the sphincters and with a preservation of all the sphincteric function possessed prior to operation, by the application of the Whitehead principle of rectal excision.

**LIVER, PANCREAS, AND SPLEEN**

**Gade, Thévenot and Roubier: Liver Abscess in Autochthonous Amœbic Dysentery** (Les abcès du foie dans la dysentérie amibienne autochtone). *Archiv. d. mal. d. l'appar. diges. e. d. l. nutrition*, 1912, vi, Oct. By Journal de Chirurgie.

The authors could collect only four cases of autochthonous amœbic dysentery occurring in France. They report two cases in which dysentery was complicated by liver abscess.

In the first patient a clinical diagnosis of hypertrophic hepatic cirrhosis with ascites was made. The subject was an alcoholic and presented the stigmata of tuberculosis. There were present hepatic insufficiency and terminal delirium. The autopsy disclosed a voluminous abscess of the right lobe of the liver, containing two quarts of yellowish pus. There were multiple ulcers of dysenteric origin in the cæcum, and an old pulmonary tuberculosis. There were pericardial and pleural adhesions. There were numerous yellow ulcers of the intestines, which did not extend beyond the fundus of the glands. Diplococci and tubercle bacilli were present in the hepatic pus.

In the second patient a clinical diagnosis of hepatic hypertrophy was made. There was present a large abscess. An operation was performed. The autopsy disclosed a voluminous liver with an abscess containing 4 litres of pus. There was a small abscess posterior to the first. There were no intestinal lesions. There were amœbæ in the abscess wall. The injection of the pus in guinea pigs determined a mild tuberculization. The contagion of autochthonous amœbic dysentery is usually due to contact with dysenteric subjects.

As to the pus of a liver abscess, it is often sterile, but this sterility is usually secondary. The amœbæ must be sought in the scrapings or in the abscess wall. The association of tuberculosis is relatively frequent. The diagnosis is difficult. It is important to keep in mind the antecedents of subjects having a large liver, difficult of interpretation. If the tumefaction of the liver is localized, the diagnosis is easy, but it is often late. Rapid increase in the size of the liver and localized tenderness on palpation are suggestive. The presumption of hepatic abscess leads naturally to the examination of the intestines, either directly with the rectosigmoidoscope, or indirectly by examination of the stools for amœbæ and inoculating the intestinal tube of a young cat with the rectal contents of suspected case. Early diagnosis enables one to institute an effective therapy, which will always consist of the opening and drainage of the abscess. In all cases, exploratory laparotomy is preferable to blind puncture. J. OKINCZYC.

**Munk: A Case of Cure of a Simple Cyst of the Liver.** *Berlin. klin. Wchnschr.*, 1912, xlix, 2174.

By Surg., Gynec. & Obst.

A woman 44 years of age had suffered for two years with digestive disturbances and had become ex-

tremely emaciated. A large tumorous mass was present in the region of the liver. Examination of the tumor suggested its being a cyst; but its precise nature was impossible to determine; the echinococcal reaction of Weinberg was negative, Wassermann's reaction was also negative, and only the cancerous reaction of Brieger was positive. Jaundice was rather pronounced, but there was no urobilinuria. General condition was extremely low.

Upon operation, a cyst as large as a child's head was found. Since extirpation was impossible, the cyst was attached to the anterior abdominal wall without its being opened, after a subjacent protective barrier had been prepared. Upon puncture, two days later, an opaque fluid escaped which proved to be sterile. Tests for urobilin in the urine always proved negative. Jaundice caused by compression of the biliary tracts still persisted.

Six days later a second operation was decided upon. The effects of this second intervention were very grave, but the patient finally recovered. The jaundice disappeared after a few days; urobilinuria appeared four days following the operation, after a colon bacillus infection of the gall-bladder had resulted from removal of the cyst.

From the fact that in spite of a very marked biliary retention urobilinuria was absent until after infection of the bile, Munk agrees with Schili, Mueller, and Hilderbrand, and concludes that when urobilin is normally formed in the intestine by the reduction of bilirubin, it passes into the vena portæ and is destroyed or transformed in the liver into bilirubin; but that when the pathological changes in the hepatic parenchyma prevent the destruction of urobilin it passes directly into the blood and appears in the urine. Yet there are cases such as the above, in which, in spite of a marked arrest of liver function, urobilinuria does not appear so long as this arrest is purely mechanical, while an infection of the biliary tract will nearly invariably cause urobilinuria. We therefore have pointed out to us here a diagnostic and prognostic significance of urobilinuria which it will be well to remember.

E. S. TALBOT, JR.

**Hellström: Spontaneous Recovery from Acute Post-appendicular Suppurative Hepatitis.**  
*Beitr. z. klin. Chir.*, 1912, lxxx, 546.

By Surg., Gynec. & Obst.

In this article Hellström gives two interesting cases showing the possibility of spontaneous recovery from acute post-appendicular suppurative hepatitis, one of the most dreaded complications of appendicular infection.

In the first case the recovery was probably not absolutely spontaneous, since a small intrahepatic abscess had been opened by an incision; however, since the liver was extremely enlarged, it seems more than probable that there were abscesses present other than the one (no larger than an egg) which had been opened, and yet the patient, after a prolonged period of convalescence, finally recovered.

In the second case only an exploratory incision was made, which showed an enormously enlarged liver with numerous abscesses situated on its external surface. The incision was closed without further interference. This patient also recovered, although for a number of months he presented fever and other signs of general infection.

These two cases prove that post-appendicular suppurative hepatitis is not always a fatal complication, and that recovery may occur spontaneously. The operations which were performed in Hellström's two cases were absolutely insufficient to explain recovery. These facts, together with those already published by Treves and Koerte, give occasion for reflection to those who publish cases of recovery "due to operation" for suppurative hepatitis with multiple foci.

EUGENE S. TALBOT, JR.

**Lotheissen: Tuberculosis of the Liver and Its Surgical Treatment** (Ueber Lebertuberculose und deren chirurgische Behandlung). *Beitr. z. klin. Chir.*, 1912, lxxx, Nov. By Surg., Gynec. & Obst.

Liver tuberculosis demands more attention on the part of the surgeon. Certain forms offer promises of good results by surgical interference. Simmonds found the liver involved in 82 per cent of autopsies performed upon 476 tubercular persons. Conglomerate tubercles were present in but 2 of these cases. Zehden (Moabit) observed liver tuberculosis in 50 per cent of his autopsies. Elliesen (Erlangen) found 4 cases of solitary tubercle in 460 cases, but considers this number too low, and thinks it includes only those cases where the tubercles were macroscopically visible. Suzuki examined 70 cases (Würzburg Pathological Institute), and found upon microscopical examination miliary tubercles in 44 cases. In 25 of these the tubercles could be discerned macroscopically. Zehden is of the opinion that the miliary tubercles are the result of a rapid infection occurring shortly before death, due probably to a cessation of the physiological forces which ordinarily are powerful enough to resist dissemination of tuberculosis in the liver.

Another form of liver tuberculosis is characterized by the formation of large cheesy nodules. This form has been described by Hesch, Birch-Hirschfeld, and others. The nodules arise from the interlobular connective tissue, because here the tubercle bacillus finds favorable conditions for development. By confluence they may attain a size from that of a hazel-nut up to that of a fist. The nodules may be single or multiple. In cattle this form of conglomerate tubercle is found more frequently than in man. The process may lead to abscess formation within the liver or its vicinity. Both groups have some points in common, but are best considered separately. Lotheissen has collected 34 cases of the first group and 13 of the second. Each group contains one of his own cases.

1. *Conglomerate tubercle.* Man, 24 years of age, had typhoid 5 years ago. In 1909 cough, fever, pains on right side; operated upon for empyema.

Later he had a recurrence of the fever; this persisted up to the time of admission. The patient had two fistulæ in the eighth intercostal space on the right side. Both discharged copiously; the discharged material resembled that from a tubercular cavity.

The excursions of the right side of the thorax were less than of the left. An area of dullness began two finger-breadths above the right nipple and extended two finger-breadths below the costal arch. It was continuous with the liver dullness and changed with respiration. Rough breathing could be heard over the apices, but no breath sounds were perceived over the area of dullness, which passed horizontally from before backward. Typical night sweats. X-ray showed the following: Both upper lobes were filled with numerous shadows the size of a pea or bean; some appeared to be calcareous. The glands at the hilus were enlarged on both sides, infiltrated, and some were calcareous. The right side of the diaphragm moved but slightly. Patient complains of pains in the right side, both spontaneous and upon deep inspiration. Localization of the pain is indefinite—at times at the costal arch and again in the parasternal line. Ten cm. of the seventh and eighth ribs were resected and an abscess cavity about the size of a silver dollar and 2 mm. in height exposed. The inner wall was formed by the diaphragm. By splitting this a cavity the size of two fists was discovered. It was situated in the liver and filled with cheesy detritus. Microscopical diagnosis was chronic tuberculosis. The wound discharged bile for some time. Later the fever returned, necessitating a second operation. Four ribs were found to be carious, and a second large abscess cavity was discovered. Rib resection and evacuation of the cavity were done. Patient began to improve markedly, but later suffered again from a return of symptoms, which led to the opening of another cavity. A fourth interference became necessary to remove another conglomerate tubercle. After that permanent improvement followed. The wound closed and the apical tuberculosis improved.

2. *A case of subphrenic abscess.* Woman, 61 years of age. Three years ago she had an attack of pleurisy. She has now a tumefaction at the right costal arch. The tumor fluctuates. An incision parallel with the costal arch was made and pus evacuated. No cavity could be discovered in the liver. Above, the finger entered the pleural cavity through an opening in the diaphragm. The pus was sterile. Signs of tuberculosis were found in the right lung. Tamponade of the abscess cavity was followed by recovery.

This case and one of Langenbuch do not show the definite origin of the process from the liver, but tally so well with the other cases collected that Lotheissen does not hesitate to place them in this class. Infection takes place by the blood stream in the majority of cases. The primary focus of infection may be found in a cheesy bronchial lymph gland. Infection from intestinal ulcers is hardly

to be considered in the surgical form of tuberculosis. Foci in the lung occur in a large number of cases. The right lobe of the liver seems to be involved preferably. The nodules usually are well circumscribed and may even be shelled out. Bacilli can seldom be demonstrated in the lesions. The walls of the cavities differ from those of ordinary or of tropical liver abscess. In the latter the cavity resembles that seen in gangrene of the lung. It is difficult to differentiate the conglomerate tubercle at times from sarcoma or carcinoma. Gumma of the liver is less clearly defined, above all much richer in connective tissue, and the central portions frequently show scar formation. The center of a tubercular nodule shows the largest amount of softening. If the tumors are situated superficially they may protrude above the surface of the liver, but as a rule adhesions with adjacent organs are formed. These adhesions are the result of a local tubercular peritonitis; general tubercular involvement of the peritoneum seems to be infrequent. Dissemination of tubercles upon the lower or upper surface of the diaphragm is not infrequent, leading in the latter case to development of a tubercular diaphragmatic pleurisy. This may cause a sacular empyema.

The symptoms of tuberculosis of the liver are vague. Of the 47 cases collected by Lotheissen, 23 presented no sign of involvement of any intra-abdominal structure; 15 were operated on, and only in 3 of these a correct diagnosis was made before the operation. A tumor at the costal arch was observed in 14 cases; in 8 of these fluctuation was present, due to a subphrenic abscess as proven by operation. A solid tumor connected with the liver was present in 5 cases. It seems that localizing symptoms appear only when the process had reached the serosa. Pain may be present in the side or may be felt as a continuous dull girdle pressure, the same as is found in diaphragmatic pleurisy. Cough and dyspnoea may accompany the pain. While the tubercular process is confined to the interior of the liver, the symptoms are chiefly those of gastrointestinal disturbances. Tuberculosis of the liver leading to the formation of large nodules should be treated surgically.

At times a simple laparotomy seems to produce marked improvement. Hanot and Gilbert point out that healing may occur by cirrhotic changes. These may be favored by a laparotomy. As a rule, however, more radical interference is preferable. Isolated nodules may be treated by cuneiform excision, with preliminary placing of catgut sutures. Larger or multiple nodules require regular resection; here preventive hæmostasis by intrahepatic ligation after Kusnetzoff and Peusky is to be used. Ligation of a branch of the hepatic artery may be of great service in resection of an entire lobe. Ransohoff employed resection by the two-step method. This seems to have been accountable for the unfavorable result. Twenty-four hours after the placing of an elastic ligature and delivery of the tumor from the wound a severe hæmorrhage set in, necessitating

removal of the tumor with the cautery. The patient died six days later from a necrosis of the gastric mucous membrane. Lotheissen favors curettement after ample exposure of the focus. Hæmorrhage is not very marked. The cautery may be used in addition to reach the deeper tissues. In the after treatment he considers swabbing with tincture of iodine to be of great importance. In cases of coexisting empyema, transpleural approach is the best. Exploratory incision should not be delayed too long in doubtful cases. Recovery from tuberculosis of the liver may be expected (1) if treatment is instituted early; (2) if the patient is young as he has greater power of resistance; (3) if the operative procedures are not too severe.

E. C. RIEBEL.

**Tuffier: Non-Parasitic Cyst of the Liver (Biliary Angioma)** (Kyste nonparasitaire du foie: angiome biliaire). *Bull. e mém. d. l. Soc. d. Chir. d. Paris*, 1912, xxxviii, 1252. By Journal de Chirurgie.

Last November Tuffier had occasion to operate on a young man 25 years of age who had consulted him regarding a voluminous abdominal tumor, the existence of which he had first noticed about two and a half months before. The tumor, the size of two fists, was not accompanied by any hepatic disturbances, and had discommoded the patient only because of its size. It presented all the characteristics of a hydatid cyst of the liver (there was no hydatid thrill, but the deviation of the complement was positive), and accepting this diagnosis, Tuffier intervened. When the abdomen was opened he perceived that the whole lower portion of the right lobe of the liver was occupied by a fluctuant, multilobular tumor which looked like a polycyst; when punctured at various points it gave forth a liquid which was sometimes clear, sometimes biliary, sometimes dull, dark-colored. The other portion of the right lobe and the left lobe of the liver appeared absolutely healthy, as did the right kidney. Without causing any great loss of blood Tuffier was able to remove this tumor from the parenchyma of the liver, from which it was marked off not by any fibrous membrane but by a condensed hepatic tissue. The loss of substance was repaired by drawing the healthy tissue together by means of heavy catgut, drawn moderately tight. The patient recovered without any accidents. Tuffier saw him again during the last few days, and found him in perfect health.

The principal interest of this case lies in the histological examination of the tumor.

The tumor was formed of multiple cavities, each completely isolated from the other. The majority of them contained a liquid which was plainly biliary; but some of them contained a liquid which was clear, rich in albumin, or containing, on the other hand, a liquid which was dull, puriform and of a chocolate color. The wall of the cyst was formed of fibrous tissue and on the inside was lined with cylindrical or cubic cells which resembled the cells

of the biliary duct. In the intercystic partitions atrophied hepatic tissue was found. J. DUMONT.

**Syms: Gallstones.** *N. F. M. J.*, 1912, xcvi, 933.

By Surg., Gynec. & Obst.

The chief etiological factors in the production of gallstones are infection and inflammation. These two bring about the final causes, namely, change in the character of the bile and stagnation of the flow of the bile.

There is a close association between the liver (with its biliary system), the stomach and intestines, and the pancreas. These organs are associated embryologically, histologically, physiologically, and pathologically. Disease or inflammation of any of these organs may become a factor in the production of gallstones.

The serious lesions and complications which are caused by gallstones are only found in a more or less advanced stage of the disease. The early pathology of cholelithiasis is simple; the late pathology is complex. Therefore early operations may be simple in their nature and will be almost certain of cure. On the other hand, delayed operations must usually be of a complicated character, with more risk to the patient and with less certainty of cure. Gallstones tend to the production of cancer. Cancer of the gall-bladder is practically always preceded by gallstones.

In some cases the classic text-book picture is presented, and diagnosis is obvious. In most cases the symptoms are mild and more or less vague, and diagnosis is not easy.

Operation is the only treatment for gallstones, and it is always indicated when the diagnosis can be made, and often when the diagnosis must be assumed. Early operation is not dangerous. Delay in operation is dangerous. The death rate in biliary surgery bears a distinct relation to the period of the disease.

As gallstones are dependent upon infection, drainage is of the utmost importance. It should be a routine procedure and should be continued until clear bile flows. Cholecystenterostomy is an important procedure. The gall-bladder should be preserved unless there is strong reason for its removal.

The author's reasons for the removal of the gall-bladder were misstated, owing to a typographical error.

**Clark: Gallstones Coincident with Other Surgical Lesions.** *J. Am. M. Ass.*, 1912, lix, 1587.

By Surg., Gynec. & Obst.

Clark reports the histories of 86 cases of cholelithiasis found coincident with some pelvic lesion for which the operation was primarily performed. He especially draws attention to the fact that the gynecologist must be ever on the alert to differentiate between symptoms referable to the pelvic organs and those which hitherto have largely been considered reflex. In the majority of these cases in which

reflex symptoms appear to be dominant, the real cause has usually been found in the organ from which they emanate, and therefore are not reflex, but arise from definite local pathological changes.

In his series of over 100 cases of cholelithiasis with operation, in various hospitals, coincident with some other primary lesion for which the patient was admitted to the hospital, there were only a very few in which there was not more or less direct physical disturbance, ranging from the classical attacks of colic to the less direct symptoms of indigestion, etc. Thus, in 86 cases under immediate review, from his service in the University Hospital, 39 gave a history of unmistakable gallstone attacks. In 14 the patients complained of indigestion, a term which encompasses such symptoms as gaseous eructation, sour stomach, heaviness after eating, vague distress in the epigastrium, etc.; in 7 there was pain in the dorsal region posterior to the gall-bladder; in 2 the symptoms were questionable; and in only 19 were there no symptoms which could be attributed to the cholelithiasis. The conditions for which the primary operation were performed varied quite widely. The commonest coincidence was gallstones and myoma uteri, there being 27 such associated cases. The remainder were distributed as follows: Retroflexion of uterus, 13; relaxed pelvic floor, 9; ovarian cyst, 6; umbilical hernia, 7; salpingitis, 7; appendicitis, 4; movable kidney, 1; uterine polyp, 1; prolapse of uterus, 1; hæmorrhoids, 1; metritis, 2; pyosalpinx, 1; intestinal adhesions from former peritonitis, 3.

In this series there was one death from cholemia in a common-duct case coincident with a large ventral hernia. Argument against the removal of the stones as being unnecessarily dangerous, therefore, in the face of the small mortality is hardly necessary to sustain the combined operation.

The contraindications to the examination of the upper abdomen, as observed in his clinic in the University Hospital, were: (1) In the event of a liberation of pus in the pelvic or lower abdominal cavity, the hand should never be passed from a septic to a non-septic area. (2) When the incision is too small to admit the hand, and there are no symptoms to cause suspicion of cholelithiasis, the examination of the gall-bladder is omitted. (3) When the patient is not taking the anæsthetic well and a prolonged anæsthetization and further manipulation of the viscera would be immediately harmful, the gall-bladder is left untouched.

In the presence of a lesion inevitably fatal, as inoperable carcinoma of the gall-bladder, etc., the stones are not removed, as the operation would only add to the immediate discomfort of the patient with no hope of any permanent good.

In conclusion, he states some of the facts worthy of special attention as follows: (1) Gallstones give rise to symptoms in a much larger proportion of cases than is commonly supposed. (2) Many cases heretofore diagnosticated and treated as "chronic indigestion" and other vague stomach disorders are

in reality cases of cholelithiasis. (3) Gallstones are not necessarily innocuous when they are producing no symptoms, but may produce fatal lesions while their presence is unsuspected. (4) Unless contra-indicated, the gall-bladder as well as the appendix should be examined in all cases of cœliotomy, and gallstones, if present, should be removed whether they offend or not, provided the patient's local and general condition is favorable.

**Gerster: Unsuccessful Surgery in Disorders of the Gall-Ducts, Together with a Consideration of Naunyn's Cholangitis.** *Surg., Gynec. & Obst.*, 1912, xv, 572. By Surg., Gynec. & Obst.

In this article the author explains that by normal bactericholia is meant the presence of micro-organisms in the bile of the duodenal portion of the common bile duct, while, in contrast to this, bacterial infection of the bile consists in the dangerous accumulation of organisms following relative or absolute stagnation in the bile passages.

The infection may either be of enterogenous origin (*B. coli*) or of hæmatogenous origin (as in typhoid, pneumonia, severe sepsis, etc.).

Attacks of paroxysmal pain, fever, jaundice, and swelling of the liver and evidences of the cholangitis (inflammatory swelling of the basal membrane and epithelial layer of the smallest bile ducts) present, not of impaction of stone, as proven by those cases with the above symptoms in which inflammation but no stones were found at operation or autopsy. In other words, the clinical symptoms are the same whether or not stones are present. "Everything which relatively or absolutely obstructs the expulsion of bile will cause persistence of cholangitis and of biliary disturbances."

Important intrinsic causes of relapse are: (a) Stricture or kinking of the common duct; (b) the leaving behind of undetected stones.

Palpation of the unopened common duct is inadvisable because of the possible displacement of stones into the hepatic duct. The common duct should first be opened and drained; palpation then is easier and more reliable, and dislodgment of stones toward the liver is less apt to occur.

Gerster reports five cases of relapse of cholelithiasis in which cholecystectomy had previously been performed; in all five the common duct was easily exposed at the second operation.

The author believes that a damaged gall-bladder not only is of no use as a guide to the common duct, but that "the presence of an infected gall-bladder will produce close, extensive, and very troublesome adhesions, which do not yield to blunt dissection but require the perilous use of sharp-edged instruments" for exposure of the common duct.

As regards treatment, "having once acquired the conviction that the fundamental factor of biliary colic and hepatic fever is infection of the bile, causing inflammation of the walls of the bile duct, then incision, drainage, and irrigation may be accepted as necessary steps of a rational treatment."

The conclusions reached are as follows:

1. Every dilated common duct should be opened and drained.
2. Palpation should follow, not precede, incision of the common duct.
3. An inflamed, thickened, adherent, or shrunken gall-bladder should be removed.
4. All cicatricial deposits in the gall-bladder or in the cystic duct justify removal of the gall-bladder.
5. The presence of many small stones, even though the cystic duct is patulous, indicates that the gall-bladder should be removed.
6. The presence of a damaged gall-bladder is not an aid, but an impediment to exposure of the common duct.
7. Absence of the gall-bladder does not constitute an important adverse factor in the subsequent exposure of the common duct.

**Sugi: Stenosis of the Bile Ducts in the Newborn**  
(Ein Beitrag zur Frage der Gallengangstenose beim Neugeborenen). *Monatschr. f. Kinderh.*, 1912, xi, 294.  
By Surg., Gynec. & Obst.

Sugi reports a case of stenosis of the bile ducts in a child who was brought to the clinic for treatment of umbilical hæmorrhage when two weeks old. It had no icterus at that time. The child died with symptoms of hæmorrhagic diathesis when three weeks old. Autopsy showed suffusions of the skin, the umbilicus, and pleura, ecchymosis of the thymus, the testes, epicardium, and the mucosa of the digestive tract, with severe icterus of the liver as a result of stenosis of the ductus hepaticus and its two main branches. The stenosis was of inflammatory origin and the resulting granulating tissue infiltrated mainly the outer layers of the large bile ducts. It was rich in eosinophiles and plasma cells; the walls of the macroscopically unchanged ductus choledochus were permeated by these cells. The gall-bladder, however, showed no such changes and only certain macerated spots. The same process was found to a slighter degree in the liver, being almost exclusively around the head of the pancreas. There was no epithelium in the ductus hepaticus, and only remnants in the ductus choledochus, but it was found everywhere in the bile ducts of the liver.

The stenosed parts had been frequently sounded, and this may explain the absence of epithelium, but it must be admitted that it may have resulted from the inflammatory process. In this case we have a cholangitis and pericholangitis, while the portal vein, the arteries of the liver, and the vena umbilicalis were free from lesions. Spirochetes or bacteria were not found. There were no specific symptoms and nothing in the histological findings to allow a diagnosis of lues.

E. S. TALBOT, JR.

**Upcott: Tumors of the Ampulla of Vater.**  
*Ann. Surg., Phila.*, 1912, lvi, 710.

By Surg., Gynec. & Obst.

Two cases of tumors occurring in the ampulla of Vater are reported. Both were in men, aged 63 and

65 respectively, and in each the symptoms were similar; i.e. gradual appearance of jaundice which persisted, absence of pain, marked loss of weight, enlargement of the liver, and a distended and easily palpable gall-bladder.

In both cases the tumor was discovered upon opening the abdomen, as a hard, irregular nodule, situated upon the posterior surface of the duodenum.

After mobilizing the duodenum by incising the peritoneum upon its outer side, it was drawn forward and opened by a transverse incision, and the nodule pushed forward into the wound.

In the first case there was no attempt made to remove the growth, and a palliative operation of cholecystoduodenostomy was performed; this relieved the condition for about one year, when obstruction of the pylorus ensued, necessitating a posterior gastro-enterostomy; subsequently the symptoms of pancreatic insufficiency increased, and the patient died twenty months after the primary operation.

In the second case, the greatly distended gall-bladder was opened and six stones removed from the cystic duct; through a transverse incision in the duodenum, the mucous membrane around the tumor was incised and the latter was then drawn forward and cut away.

As the common duct was divided, there was an escape of turbid mucus, and a small unfaceted stone was removed from its upper end.

The lower end of the common duct was sutured to the mucous membrane of the intestine. As the cut end of the pancreatic duct could not be found, the lower portion of the wound in the intestine was not closed.

The transverse opening in the duodenum was sutured, the gall-bladder drained, and the abdomen closed. The microscopic examination showed the growth to be a columnar celled adenocarcinoma.

From the examination of the urine and fæces in the first case it was thought that there was a partial obstruction to the bile entering the intestine and also an interference with the function of the pancreas; the latter might be produced either by malignant disease or by cirrhosis of the pancreas.

Upcott states that an exact diagnosis will rarely be made; the commoner cause of biliary obstruction and chronic inflammation of the pancreas are apt to be associated with pancreatic insufficiency.

He also points out that the duct of Santorini may open separately into the duodenum above the ampulla, and in this way drain the duct of Wirsung.

He suggests that it may be wise to relieve the condition of jaundice by one of the palliative operations — a cholecystostomy, a cholecystenterostomy, or by a choledochenterostomy — and leave the more radical operation of removal of the growth until a later date.

The radical operation may be done by a circular resection of that part of the duodenum, followed by an anastomosis or a closure of the divided ends of the

intestine, and a gastro-enterostomy, with implantation of the ducts into the intestine, or a cystenterostomy.

The simpler operation is advised, for most cases, of removal through the transverse incision in the duodenum, which was made use of in his second case.

D. L. DESPARD

**Chiarugi: Pancreatic Steatonecrosis in Acute Traumatic Pancreatitis** (Steatonécrose pancréatique en pancréatite aigue traumatique). *La Clin. Chirurg.* 1, 1912, Oct., 1853.

By Journal de Chirurgie.

A patient 35 years old was struck on his abdomen by a heavy barrel. There were immediate symptoms of severe abdominal injury. On succeeding days there was present a loss of appetite with nausea, at night slight elevation of temperature, sensation of cold in the epigastric region and lumbar pain. At the end of a month the patient appeared cured and resumed work, but experienced a sensation of extreme lassitude and noticeable loss in weight, the weight falling from 65 to 56 kilos. Twelve months after the accident the patient, without any appreciable cause, had an attack of colic, meteorism, pain in the periumbilical and right hypochondriac region. This attack subsided after purgation and evacuation and the weight continued to decrease to 46 kilos. Two months later there was intense pain in the epigastric region, with vomiting, cold sweats, and fever. Three months later, the patient's pulse was very weak; had cold sweats and peripheral cyanosis. Respiration was frequent and of the superior costal type. The abdomen was distended, especially in its upper portions, the volume of which contrasted with the marked emaciation of the limbs. This area continued immobile during respiration and transmitted the pulsations of the aorta; the parietal muscles were contracted and there was extreme tenderness in the epigastric region 2 or 3 cm. above the umbilicus, upon the median line. There was an area of dullness between the stomach and the colon extending from the left border of the sternum to the right mammillary line.

The author, basing his opinion especially upon the history and upon the integrity of all the abdominal viscera but the pancreas, made a diagnosis of traumatic pancreatitis with steatonecrosis. He deemed it urgent to intervene. Spinal anæsthesia; a right paramedian supraumbilical incision. The parietal and visceral peritoneum were opaque and markedly congested. One could see and palpate a fetal-head-sized tumor immediately below the great curvature of the stomach in the pyloric region.

This slightly fluctuating tumor was covered by the gastrocolic ligament and the transverse colon, which were adherent to it. The adhesions were separated, the gastrocolic ligament incised, and the head and body of the pancreas exposed. They formed a necrotic, brownish, friable mass. This necrotic mass was gently evacuated and, owing to the fear of hæmorrhage, capillary drainage was used. The wound was left widely open. Following the operation the temperature had the suppurative type. Necrotic fragments were eliminated, as well as an abundant quantity of limpid, gluey, alkaline fluid, which had the same action—carbohydrates, albuminoids and fats—as pancreatic juice. At the end of three months there was spontaneous closure of the pancreatic fistula. The patient regained in weight, weighing now more than ever—70 kg. 6. Histological examination of the fragments collected at the time of operation and in the course of elimination of the necrotic mass confirmed the diagnosis.

PIERRE FREDET.

**Mayesima: The Value of the Cammidge Reaction in Diseases of the Pancreas** (Ueber den Wert und das Wesen der Cammidge'schen Reaction bei Pankreaserkrankungen). *Mitt. u. d. Grenzgeb. d. Med. u. Chir.*, 1912, xxv, 403.

By Surg., Gynec. & Obst.

The author reports the following results from experiments with the Cammidge reaction. The urine of rabbits and dogs which had been previously injected with from 5 to 15 cc. of 10 per cent camphorated oil solution, and into the stomachs of which 5 cc. of a 20 per cent choral hydrate solution had been placed, was treated with tribasic acetate of lead, as indicated by Cammidge; the clear filtrate of this showed a strong Cammidge reaction. Then 25 gm. of pure glucurovanillin acid barium were dissolved in 100 cc. distilled water and mixed with tribasic acetate of lead, and the filtrate of this freed from superfluous lead by addition of sodium sulphate; this solution was then heated with acetic acid of hydrazin of phenol and gave a yellow crystalline sediment identical with that of Cammidge. Pure glucuron acid, 25 gm., was dissolved in 40 cc. normal urine, which did not give Cammidge reaction; the urine treated in the same way as above gave the typical Cammidge reaction. A solution of glucuron acid potash in water gave also a beautiful Cammidge reaction. The latter is of no diagnostic value in diseases of the pancreas. The crystals gained in the experiments were not always of the same chemico-physical quality; the matrix for the orazon crystals can therefore not be of uniform nature.

## SURGERY OF THE EXTREMITIES

## DISEASES OF THE BONES, JOINTS, ETC.

**Barrie: Chronic (Non-Suppurative) Hæmorrhagic Osteomyelitis.** *Post-Graduate*, 1912, xxvii, 1049.  
By Surg., Gynec. & Obst.

The author describes a lesion occurring in the ends of the long bones, variously designated as (a) medullary giant cell sarcoma, (b) myelogenous giant cell sarcoma, (c) myeloma, and (d) medullary giant cell tumor (Bloodgood). The writer contends that these names are misnomers in that the condition is the product of a chronic inflammatory process and not a true neoplasm. He prefers the name chronic (non-suppurative) hæmorrhagic osteomyelitis.

The process is supposed to begin as a result of trauma causing bruising of the capillaries in the bone with transudation and hæmorrhage, followed by destruction of the bony canals from pressure necrosis. A low grade irritation or inflammation follows which results in excessive production of vascular granulation tissue springing from the reticulum of the bone marrow.

The point upon which the diagnosis of malignant growth has been made is the presence in this tissue, which is infiltrated with small round and epithelioid cells, of numerous giant cells. These the author regards not as tumor cells, but merely as foreign body giant cells or scavengers, whose function it is to remove the debris produced by the low grade inflammatory condition in the bone.

The gross appearance of the fresh specimen is said to be typical—very vascular, deep red granulation tissue without supporting fibrous structure. The cut surface has a velvety appearance, oozes freely, and shows numerous small hyaline thrombi and recent blood clots in the smooth, somewhat myxomatous mass. In the later stages the tissue may become converted into fibrous tissue of grayish appearance, with or without cystic areas, giving the appearance of so-called osteitis fibrosa.

The X-ray shows the lesion clearly circumscribed though somewhat irregular in outline, indicating total bony destruction of the cancellous tissue. In diagnosis important points are: history of trauma, chronicity (months or years), tenderness from onset and pain usually not marked until noticeable swelling, age (childhood or young adult life). Operative treatment should be limited to simple removal with the curette of the excessive granulation tissue and inflammatory debris, followed by transplantation of bone to fill the cavity, as advised by Bloodgood, or firm packing. Amputation without real evidence of sarcomatous degeneration is uncalled for.

F. J. GAENSLER.

**Elmslie: Fibrous and Fibro-Cystic Osteitis.** *Brit. M. J.*, 1912, November, 1367.

By Surg., Gynec. & Obst.

The author states that too often bone cysts are mistaken for sarcomata and amputation performed.

He mentions several varieties: (1) Localized fibrous osteitis; (2) localized fibrocystic osteitis; (3) generalized fibrocystic osteitis (von Recklinghausen's disease); (4) cystic osteitis. As far as can be ascertained, the condition always starts in childhood or adolescence. Cysts usually occur in the femur, humerus, tibia, and fibula, arising near the epiphyseal lines. They most often produce no symptoms until spontaneous fracture occurs, being painless in their course. Enlargement of the bone may lead to medical advice being sought. Beyond the opinion that fibrous osteitis is an inflammatory lesion nothing is known of its pathology. The important feature in treatment is that it must be strictly conservative—curettage, crushing of the cyst wall, or resection of the affected portion of the bone are the measures usually advocated. Elmslie reports five cases—three in the humerus, all males, 7, 9 and 14 years; one in the femur in an adult female (in this case a history dating from the age of 15 was obtained); and one case in the tibia, in a boy of 10.

M. S. HENDERSON.

**Morton: Arthritis.** *Proc. Roy. Soc. M.*, 1912, vi, 1.  
By Surg., Gynec. & Obst.

This article is written chiefly with the idea of differentiating between rheumatoid arthritis and arthritis deformans. The former the author regards as an intoxication caused by a toxin produced by bacteria. In distinguishing the conditions he notes that osteophytes are rare in rheumatoid arthritis, and when present occur at the extreme end of the long bones, where there is an absence of the articular cartilage. The production of bone is of very elementary character, and we therefore have in rheumatoid arthritis a disease which is characterized essentially by the destruction of joint tissues with the production of osteophytes of secondary importance.

In osteo-arthritis (arthritis deformans) we have a condition in which the joint spaces are narrowed or partially so and the spaces between the articular ends are more or less even, while the formation of osteophytes is quite marked. A distinction between these two conditions can usually be made very well by the use of the X-ray. As to electrical treatment of this condition, Morton thinks that ionization offers the best chances for benefit. C. G. GRULEE.

**Ely: The Etiology of Chronic Non-Tuberculous Arthritis, the Miscalled Arthritis Deformans.** *Am. J. Orthop. Surg.*, 1912, 171.

By Surg., Gynec. & Obst.

Ely reviews the evidence for and against the infectious theory of the cause of the various types of so-called rheumatoid arthritis. He calls attention to the three theories most prominently advanced to account for these joint lesions, viz.: (1) That they are due to some derangement of the central nervous system which manifests itself through the trophic

nerves of the joint; (2) that they are due to faulty metabolism (auto-intoxication); (3) that they are distinctly infectious.

He points out as evidence in favor of the last theory that "every bone and joint disease whose exact cause we know is infectious." "Numerous observers have isolated pure cultures of micro-organisms from these chronically diseased joints, and in some instances have produced the disease by injection into the joints of animals."

He admits that the organisms found by one observer appear to differ from those found by others, but says "it is perhaps better for the present to believe that a number of different organisms may be responsible for these diseases, especially as this agrees with clinical evidence."

Regarding the nervous theory he says, "As far as we can ascertain, no proof exists that a lesion of the central nervous system can cause changes in the body tissues comparable to those found in the joints in chronic arthritis."

In discussing Charcot's joints, which are advanced by some writers in support of the nerve theory, he says, "When two lesions are sometimes found together and sometimes separately, we conclude that one is not caused by the other but that both are caused by something else"; and "here we are using for illustration a joint lesion about whose nature we are quite ignorant, and for whose occurrence no satisfactory explanation has ever been adduced. Let us rather regard a Charcot joint as a late manifestation of the toxins of syphilis upon the bone marrow, as we regard tabes as a manifestation of it upon the spinal cord."

He argues that degenerations are the result of infections, that degeneration in one tissue often follows inflammation in others, and that the primary inflammation is infectious.

Attention is called to the fact that many of these chronic joint changes are associated with infections elsewhere, as in the tonsils, mouth, ear, or nose, and that when the infection is removed the joint disease stops.

The analogy existing between chronic non-tuberculous joints and the tuberculous ones is pointed out. The writer quotes from a number of other authors and refers to many published articles in support of his opinion that these various forms of chronic joint disease will eventually be found to be infectious.

J. L. PORTER.

**Lapointe: Etiology and Treatment of Traumatic Myosteomata** (Pathogénie et traitement des myostéomes traumatiques). *Rev. de Chir.*, xlviii, Nov. 1912, 657. By Journal de Chirurgie.

Lapointe reports a case of myosteoma of the crural muscle in a patient 21 years of age, operated upon and cured. There are two hypotheses as to the origin of these new formations. The first looks upon the periosteum as being directly or indirectly the source of ossification. The second, considers the process an ossifying myositis. The author does

not accept the theory of the irritative hypertrophy of aberrant sesamoid bones nor does he accept the theory of latent embryonal germs. Therefore, if ossifying myositis is true for the free and discontinued myosteomata, it must be also true of adherent myosteoma. Adhesion of itself does not constitute a sufficient argument to establish a different origin for new formations that are absolutely identical in structure. From these myosteomata must be separated traumatic exostoses, exclusively and truly periosteal in formation but which outside of contiguity have no relation with neighboring muscles. You cannot say either that these so-called chronic myosteomata are due to slight irritation of partially or completely detached periosteal flaps. Neither are myosteomata due to escape into the muscles through a periosteal fissure of cells of the internal layers of the periosteum. This theory does not rest upon any observed facts nor upon the normal anatomy of the osteomuscular continuity at the site of the insertions. Recurrence of myosteomata do not occur always at the point of pedicle implantation. In fact, it seems that these myosteomata have a matrix of muscle connective tissue, and the skeleton attachment shows only that the traumatic etiological factors have attacked at the same time the fleshy body of the muscle and its insertions.

The prophylaxis of these tumors is uncertain because cases which have been chosen to show the favorable and unfavorable influence of massage have been cases which were comparable. The efficacy of conservative treatment is more apparent than real, and is explained by the spontaneous regression of the ossifying processes, which permit, with time, sufficient functional recovery, especially in myosteomata which are not periarticular.

Extirpation is the treatment of choice, but it should not be too early. Six or eight weeks of expectant treatment is a fair average. When to the myosteoma is added an ossifying peri-arthritis and a persisting and grave disability results, and orthopedic resection should be considered.

J. OKINCZYC.

## FRACTURES AND DISLOCATIONS

### Symposium on Treatment of Simple Fractures.

*Brit. M. J.*, 1912, Nov., 1505.

By Surg., Gynec. & Obst.

In the report of the committee of the British Medical Association an attempt is made to compare the results in operative and non-operative cases. The statistics relative to the non-operative treatment of fractures of the shafts of the long bones in children under 15, with the exception of fractures of both bones of the forearm, show as a rule a high percentage of good results. The operative results in children expressed in percentages are approximately the same as the non-operative—non-operative (1017) cases give 90.5 per cent good functional results; operative (64) cases give 93.6 per cent. There is a progressive depreciation of the functional result of non-operative

treatment as age advances; that is, the older the patient the worse the result by the non-operative method. In nearly all age groups operative cases show a higher percentage of good results than non-operative cases. Operative treatment should not be regarded as a method to be employed in consequence of the failure of non-operative measures. In order to secure the most satisfactory results from the operative treatment, it should be resorted to as soon after the accident as practicable. Operative measures are to be undertaken only by those skilled in this line of treatment. A considerable proportion of failures is due to infection. The mortality due directly to the operative measures is so small it cannot be urged as a contraindication. As a basis for the report, nearly 3000 cases were examined personally by two or more members of the committee. The number of operative cases is proportionately small, there being 208 cases examined. Examinations of patients in the clinics of A. Lambotte, W. Arbuthnot Lane, Lucas, Championnière, Steinmann, Bardenhauer, etc., were made, thus representing different schools of treatment.

M. S. HENDERSON.

**Salmon: Fractures of the Upper Extremity of the Tibia.** *Arch. f. klin. Chir.*, 1912, xlix, 965.

By Surg., Gynec. & Obst.

The author reports 7 cases of fracture of the upper extremity of the tibia. Twice the fractures were transverse, twice oblique, twice longitudinal, and once a fissured fracture.

The transverse fractures most frequently are consequent upon direct traumatism, although they may result from indirect violence; in the latter case the upper fragment is flexed and the lower is in extension. The upper fragment frequently is fissured. Longitudinal fractures generally are produced by an indirect trauma. The separation of the upper epiphysis of the tibia is observed exclusively in young subjects. It is associated with a

permanent dislocation of the knee joint. After reviewing the etiology and the prognosis of fractures of the upper extremity of the tibia, the author considers their treatment. In those cases, when the reduction is difficult he favors immobilization of the fragments in a plaster cast, with the leg flexed toward the thigh. Early passive motion and massage is advocated. The average time required for cure is from six to eight weeks. E. S. TALBOT, JR.

**Gerster: The Reduction of the Fragments in Fractures of the Long Bones.** *Ann. Surg.*, Phila., 1912, lvi, 700.

By Surg., Gynec. & Obst.

Two sets of instruments are described; both were designed to reduce the overriding of the bony fragments in fractures of the long bones.

The chief instrument of the first set consists in a tractor (Fig. 1). The point of a hook at the end of a piece of bicycle chain is inserted into the medulla of one fragment, the chain leads over the end of the other fragment and over an idler wheel set in the end of a steel bar (here the chain changes its direction at a right angle), back to and over a sprocket wheel. As the chain tightens, by rotating the sprocket, one fragment is pulled up, as the other fragment is pushed down, until finally both come into line. Although it has been used with complete success, this method has the following disadvantages; (1) Tractor and fragments must constantly lie in the same plane; (2) the narrow hook often cuts through the bone, like a cranial rongeur; (3) after reduction, the instrument lies wedged between the fractured ends and its proper removal is difficult.

The second set of instruments consists of two strongly made Bowman clamps and a turnbuckle (Fig. 2). A Bowman clamp is applied to each bony fragment and the turnbuckle engages the shafts of the clamps; as the barrel of the turnbuckle is rotated, the clamps and the bones to which they are fastened are forced apart.

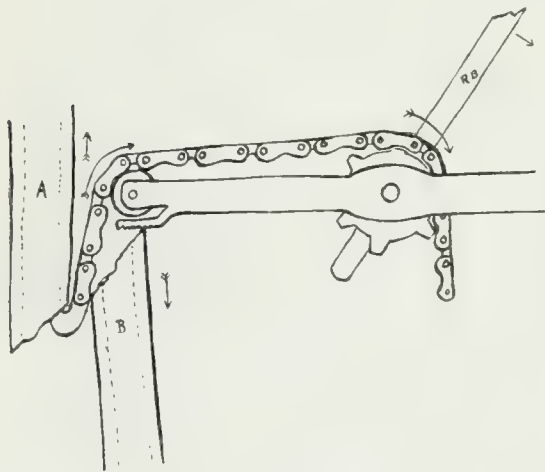


Fig. 1.

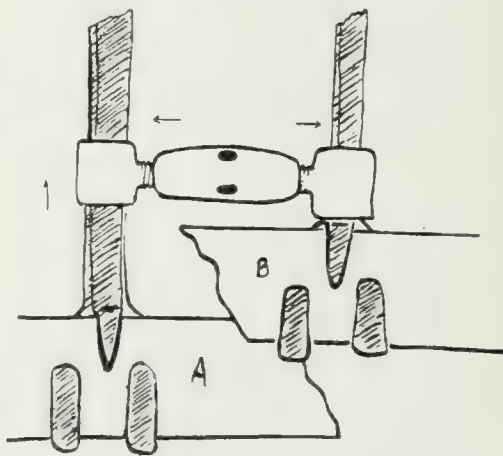


Fig. 2.

The turnbuckle and clamp method has none of the disadvantages of the tractor described above. This second method can be of most effective use in plating comminuted fractures—where the tractor cannot be used. The only danger attending the turnbuckle method is the possible employment of too great force in old fractures where the soft parts have contracted a great deal.

**Knox and Salmond: An Analysis of Injuries to the Bones at the Wrist, Based on the Radiographic Examination of 214 Cases.** *Lancet*, 1912, ii, 1213. By Surg., Gynec. & Obst.

This paper is based on a careful examination and analysis of 214 consecutive cases at a general hospital showing injury to the bones at the wrist. Each case was screened in several directions, and radiographed in at least two, antero-posteriorly and laterally, many of them stereoscopically, and all doubtful cases were excluded. For uniformity of results, the cases have been divided into two series: (1) that in which the lower epiphyses of the radius and ulna have joined their respective shafts, and (2) that in which these epiphyses have not yet united. Of the 214 consecutive cases analysed, 150 belong to the former series and 64 to the latter. The first corresponds roughly with persons above the age of 20, and the second with persons below that age.

#### I.—CASES WITH UNITED EPIPHYSES

(a) *The radius.* This shows injury in 93 per cent of the total number of cases. The radius alone is injured in 41 per cent of the total number of cases. The radius is injured along with the styloid process of the ulna in 42 per cent of the total number of cases, as common as an injury to the radius alone. The radius is damaged together with the shaft and the styloid of the ulna in 3 per cent of cases. It will be noticed how much more frequently the radius is injured with the styloid of the ulna than with the shaft, and it is interesting to compare this with the corresponding injury in the ununited epiphyses series.

(b) *The ulna.* Some part of this is injured in 49 per cent of the total number of cases, about one half the frequency of the radius. Injury to the styloid process occurs in 46 per cent of the total number of cases, so that by far the commonest injury to this bone in this series is here. The shaft is injured in only 7 per cent of the total number of cases, the injury in all cases occurring within two inches of the lower end, and in the vast majority of cases at the styloid process.

(c) *The carpal bones.* Injury is present in one or more of these in 13 per cent of the total number of cases. In none is the carpus injured with the ulna only. The scaphoid is the one most frequently damaged—no less than 13 times out of 10.

(d) *The metacarpal bones.* Show injury in about 1 per cent of the total number of cases.

#### II. CASES WHERE THE EPIPHYSES HAVE NOT UNITED

(a) *The radius.* Injury is present in 89 per cent of the total number of cases. Damage to the shaft shows in 58 per cent of the total number of cases and to the epiphysis in 38 per cent. The shaft is injured alone in 17 per cent and the epiphysis alone in 20 per cent. The radius and ulna are damaged in 33 per cent of the total number of cases. The radius and styloid process of the ulna are damaged in 11 per cent. In the shaft, by far the most frequent is transverse, 89 per cent, while the most frequent injury to the epiphysis is a separation, 79 per cent. Forty-two per cent of the injuries are at the epiphysis, while the remainder are in the diaphysis, generally about 1 inch, and practically all within 2 inches of the articular end. In the shaft 78 per cent are backward, 9 per cent forward, and 13 per cent show none; while at the epiphysis 74 per cent are backward and 17 per cent show none.

(b) *The ulna.* Injury occurs to this in 56 per cent of the total number of cases, at the shaft in 36 per cent, at the epiphysis in 8 per cent, and at the styloid process in 16 per cent. The shaft shows 86 per cent of transverse fractures. The injury is at the styloid process in 28 per cent, at the epiphysis in 14 per cent, and the remainder, 59 per cent, in the diaphysis, most commonly about 1 inch above the articular end. Displacement of the fragment is backward in 63 per cent, forward in 16 per cent, and showing none in 21 per cent.

(c) *The carpal bones.* Only 3 per cent of the total number of cases, no doubt due to the larger amount of cartilage in early life, giving better protection to the bony foci in the carpus. In none of the cases do the bases of the metacarpal bones show damage in this series.

From the foregoing analysis it is seen that the most common injury at the wrist in cases where the epiphyses have joined their shafts is a transverse fracture one half inch above the lower end of the radial bone, the lower fragment being displaced backward and with or without a fracture of the styloid process of the ulna; while in cases where the epiphyses are not yet united the commonest injury is a transverse fracture about one inch above the lower ends of both forearm bones, and with both lower fragments displaced backward.

DONALD C. BALFOUR.

**Pegger: Diagnosis of Fracture of the Lesser Trochanter** (Zur Diagnose der isolierten Abrissfraktur des Trochanter Minor). *Beitr. z. klin. Chir.*, 1912, lxxxi, 138. By Surg., Gynec. & Obst.

Pegger discusses the symptoms of this uncommon injury in connection with the report of a case. It is interesting to know that this form of injury was known to Galen. So far 15 cases have been described in the literature. Localized pressure pain is an important symptom, emphasized by all authors and also present in this case. While the pain is diffuse during the first 24 hours, it becomes localized after that. It may be elicited by pressure over the

great trochanter, may be found posteriorly over the inner portion of the gluteo-femoral fold, or anteriorly in the iliopectineal fossa. Localized swelling over the hip and the upper part of the thigh occurs, but it is not constant and is of little importance. Ecchymoses in the region of the lesser trochanter have been observed, and were present in Pegger's case. Outward rotation of the limb is present in a good many cases, and much stress is laid upon this by some observers. Iuliard explains this in the following manner: The injury acts upon all the neighboring muscles by the pain it produces. This pain lessens or even suppresses their tonus reflexly. Thus the muscles hold the limb no longer in its normal position. It is everted because its center of gravity is outside of its axis. (The X-ray picture should not be taken in the position of eversion, but in slight inversion and adduction, because the fracture may not show in the former position.) Limitation of motion of a definite type is the most important diagnostic sign. The ileopsoas muscle does not functionate.

In Pegger's case all passive motions were painful during the first few days. The patient could lift the extremity to a very limited degree only when the leg was flexed upon the knee. During this maneuver the extremity was held slightly in abduction and everted. The symptom described by Ludloff became positive twelve days after the accident. This consists in inability to elevate the extremity in a sitting posture while the psoas muscle is tense. This sign certainly is of diagnostic value if present, but unfortunately it appears rather late, as is also stated by other authors. Pegger's patient could not stand upon the injured extremity alone, even after he was able to walk about without aid. The fracture is caused by a sudden pull of the psoas muscle during a protective movement.

The following points deserve attention for the diagnosis: Circumscribed pain, together with the history of a typical accident. Ecchymoses over the lesser trochanter are of importance if present. Outward rotation is not a universal symptom: it was not present in two of the collected cases, and in the author's own case it persisted after the patient was up and walking about. The symptom described by Pochhammer—that the patient is unable to flex the thigh upon the pelvis with the knee extended, while he can do so with the knee flexed, with simultaneous outward rotation and abduction respectively and inward rotation and adduction—was seen by Pegger during the first few days. Attention should be paid to the flaccidity of the psoas tendon during an attempt at contraction. It was noticeable on the first day in Pegger's case.

The treatment was conservative. Complete consolidation followed, despite marked diastasis of the fragments. Function was complete after four months. The patient was able to use the leg in every way, although the rotation was slow to be restored.

E. C. RIEBEL.

# Walton: Injury of the Semilunar Cartilages. *Proc. Roy. Soc. M., 1912, vi, 1.*

By Surg., Gynec. & Obst

This article is prefaced by an exhaustive consideration of the anatomical points involved, from which the writer draws the following conclusions:

1. There is a tendency to injury or displacement of the semilunar cartilages.

2. This tendency is brought about by full extension, and is increased with powerful or excessive extension.

3. The tendency is much more marked at the anterior end of the internal cartilage, because: (a) being narrower, this portion of the cartilage more readily undergoes changes due to its own elasticity; (b) owing to the screw action in full extension, the compression force between the femur and tibia is much more marked here than elsewhere; (c) the anterior end of the cartilage is unprotected and loosely attached.

4. Either fractures or displacements of this portion of the cartilage may occur, and both are easily explainable.

5. There is no evidence of any tendency to fracture or displacement with any movement, provided the joint is not fully extended.

In other words, one would expect lesions of the anterior end of the internal semilunar cartilage to be much more common and to be the result of forcible or excessive extension.

As to the location of the lesion, it is much more common in the anterior part of the internal semilunar cartilage. The lesion consists primarily of a fracture of the under surface of the cartilage, which may be longitudinal or transverse and usually is directed obliquely. Of the 77 cases in this report, in 14 the anterior end was torn from its attachment. This was the most common form of lesion. Sometimes the cartilage is separated in the middle and attached only by the anterior and posterior extremities. In some rare cases the attachment is only by the posterior horn.

According to Walton, the only mechanism that can account for this condition is the forcible extension of the leg on the thigh, which terminates with an outward rotation of the tibia on the femur.

In summing up his cases he went into the etiology of this condition, and in 65 there was a definite history: 25 of these cases were caused by football; in 2 there was a distinct history of having kicked at the ball and missed it; in 21, while running, the foot slipped on the ground and was forcibly everted. This could only happen when the leg was extended. In 2 cases a second player fell across the outstretched knee, hyperextending it. Of those apart from football, 15 arose from the foot twisting outward while walking over rough ground, and 5 while running. Various other injuries accounted for the other cases, in all of which, however, there was a distinct history of the extension of the limb. In 78 cases, only 8 were females; that is, a ratio of 8 males to 1 female.

He concludes his article with the following summary:

1. The lesions present are identical in nature and position with those which can be artificially produced by hyperextension and its terminal screw action.

2. The history when carefully investigated gives evidence of hyperextension as a cause.

3. The etiological factors are in favor of the same view.

C. G. GRULEE.

### SURGERY OF THE BONES, JOINTS, ETC.

**Roberts: Recent Advances in Plastic Surgery of the Bones.** *J. Am. M. Ass.*, 1912, lix, 1759.

By Surg., Gynec. & Obst.

Roberts reviews the history of plastic surgery since its revival in the first half of the nineteenth century by Dieffenbach in Europe and Mutter in America. The Egyptian papyrus named after Ebers and attributed to 1500 B.C. is said to mention rhinoplasty performed by flaps. Wolfe of Scotland showed that a free flap or skin graft could be used to correct ectropion. It is now known that teeth, tendon, blood-vessels, fascia, cartilage, nerve and bone may be transplanted with reasonable certainty of a preserved vitality. The essential is that septic infection be absent or mild until the flap or graft has time to become physiologically united with the surrounding living tissue. Ollier of Lyons should be given greatest honor in the field of osteoplastic surgery. Carrel has found that aseptic tissue preserved by cold storage may be successfully used for grafts weeks after removal from the parent body. When a piece of bone is transplanted, its raw surface should be maintained in contact with living bone by nailing or suturing. While new osseous tissue is being deposited, the old bony tissue in the graft is probably being absorbed. He illustrates other conditions amenable to osteoplastic surgery, including nasal and sinus deformities, injuries, ankylosis, and osteoplastic fixation of the vertebral column for tubercular spondylitis. L. G. DWAN.

**Neff: Arthroplasty.** *Surg., Gynec. & Obst.*, 1912, xv, 529.

By Surg., Gynec. & Obst.

Neff carefully reviews the various methods that have been used experimentally and at operation to produce permanent and useful motion in ankylosed joints, and deduces two conclusions therefrom, viz.: first that a pad of connective tissue must be present between the bony ends before the bursa, or new joint, can be formed; and second, that the simplest and most direct method of accomplishing this must be the method of choice. Obviously, the simplest and most direct method is to interpose joint capsule or a flap of fascia, either pedunculated or free, for the ideal operation of arthroplasty. Any other method is indirect and to be used only when the direct method is not applicable. Indications and contraindications for the operation of arthroplasty are carefully discussed.

The author considers from his own experience and the careful study of the literature that the

elbow joint lends itself most favorably to the successful arthroplastic operation. The temporomaxillary was the first joint in which the operation for arthroplasty was performed and, next to the elbow, the one in which the best results have been secured. Owing to the anatomy of this joint and the surrounding structures, the operation is sometimes different from that performed upon other joints, in that the new joint must sometimes be made in an abnormal situation.

The hip joint is third in the list from the standpoint of successful arthroplasty. There are present here two of the essentials for success, viz.: maximum mobility with nearly a minimum of necessary articular surface. Even though called upon to bear the weight of the body in standing and walking, and though held in position only by a comparatively thin capsule and slight restraining ligaments, yet because the head of the femur fits accurately into the acetabular cavity and can generally be preserved in this relationship, which is the ideal operation, the hip joint lends itself quite favorably to the arthroplastic operation.

The knee joint is considered the most unsatisfactory for arthroplastic operation. The reasons for this are: first, because the joint presents extensive articular surfaces which lie flat upon one another without any bony conformation to keep them together, and second, because the entire weight of the body is thrown upon the joints in standing and walking, and because of these two factors we have the main cause of failure in the tendency to formation of dense, thick and unyielding capsular and pericapsular structures to maintain the stability of the joint.

The shoulder joint is rarely operated upon for ankylosis, the movability of the scapula obviating the necessity for operation a great deal. Theoretically, for the same reasons that the hip joint is favorable, the shoulder joint should also be, but owing to the readiness with which muscles around the joint become paralysed and atrophic, the contrary is quite the rule.

It is rarely indicated to perform arthroplastic operations upon the wrist or radio-ulnar joints.

In the surgical cure of bunions arthroplastic operations upon the metatarsophalangeal joint have been performed with uniformly good results. Also a few have been done upon the interphalangeal joints with success.

The article is concluded with case reports, accompanied by splendid photographs and X-ray pictures of cases in which successful arthroplastic operations upon the knee and elbow were performed by the author.

FLOYD B. RILEY.

**Roberts: An Operation for the Reconstruction of Impaired Hip and Shoulder Joints.** *Post-Graduate*, 1912, xxvii, 1043.

By Surg., Gynec. & Obst.

The author presents an operation for the betterment of certain hip conditions which have heretofore

been more or less hopeless of relief. These include unstable joints due to destruction of the head and neck of the femur, ununited fractures of the neck, and congenital dislocations where malformation of the head and neck prevent maintenance of reduction. Roberts also believes it will be of service in early tubercular disease of the head and in cured cases where ankylosis has resulted, and that it may likewise be applicable to disabling osteo-arthritis of the hip and similar conditions in the shoulder where the head of the humerus is involved.

The procedure consists of grafting the head, neck and so much of the body of the astragalus as may be necessary onto the inner aspect of the upper end of the femur or a stump of the femoral neck. The graft is held in place by a bolt having on its distal end a wood screw thread to engage the transplanted bone and on the other extremity a machine thread for a thumb screw. This is passed from the outer side of the trochanter through the shaft and neck, piercing the graft. The thumb screw is then turned down, bringing the fresh surfaces of the astragalus and femur into close apposition. By means of a cylindrical washer or sleeve the thumb screw remains outside the skin wound, and the bolt can readily be removed at the end of two weeks.

Several cases are reported, some of which failed from various causes; but two were successful, proving the feasibility of the operation under proper conditions. In one of these the graft was cut down upon at the end of twelve weeks. It was found firmly adherent to the femur, and a hole drilled into it showed the bone to be red and healthy in appearance. The other showed a stable joint with considerable motion at the end of 20 weeks.

The astragalar grafts are preferably obtained from patients needing operations for paralytic feet, but it is pointed out that the good results following astragalectomy render autotransplantation justifiable in case of necessity.

**Chiari: Preliminary Note on the Transplantation of Bone Minerals.** *München. med. Wchnschr.*, 1912, lix, Nov. By Surg., Gynec. & Obst.

Chiari reports the first results of his study of the function of bone marrow. This report concerns the transplantation of bone marrow, which he has undertaken with the idea of facilitating the study of its rôle in hæmatopoiesis and in osteogenesis. The experiments were performed upon rabbits. At first he obtained the marrow from the manubrium and transplanted it into cellular tissue. This yielded unsatisfactory results. At present he trepanns the femur and removes the marrow with a spoon. The marrow is then transplanted into the spleen. The splenic tissue, having a hæmatopoietic rôle of its own, appears to be the most suitable tissue for the nutrition of bone marrow. He has obtained very satisfactory results by this method. For two months following transplantation the animal is each day subjected to 20 minutes' exposure to X-rays of high intensity. During

this exposure the splenic area is covered with a lead shield. Chiari aims thus to inhibit the bone marrow in all other lesions of the body and to stimulate the hypertrophy of the splenic implantations. How much of his success is due to this treatment he is unable to say. At the end of two months the animal was killed, and macroscopic examination of the spleen showed appreciable growth of the transplanted tissue. Microscopically the transplanted tissue showed the picture of normal bone marrow which was proliferating freely. Mitotic figures were numerous and normal myelocytes and erythroblasts were found. M. C. PINCOFFS.

**Albee: Bone Transplantation as a Treatment of Pott's Disease, Clubfoot, and Ununited Fractures.** *Post-Graduate*, 1912, xxvi, 990. By Surg., Gynec. & Obst.

This is a report of the use and results of bone transplantation in Pott's disease of the spine, as based on 55 successful cases, of which 34 were dorsal, 19 lumbar, and 2 cervical, with ages ranging from 2 to 51 years.

Albee, being convinced of the fact so strongly emphasized in the recent writings and pathologic studies of Ely and others and borne out by the results he obtained by fixation operations of various acute tuberculous joints without attempting the removal of all tuberculous tissue—that bony fixation of tuberculous joints is an absolute panacea—devised the fixation of the vertebral bodies when infected by tuberculosis by engrafting a portion of bone removed from the crest of the tibia and embedded between the longitudinally split spinous processes, thus preventing all motion and relieving the rushing down of the diseased bodies through the superimposed bridge, and holding the vertebræ involved in hyperextension by the splint action of this bone plate, and also by the leverage action of the spinous processes through the lateral facets serving as a fulcrum, the bone graft acting under the great mechanical advantage of being pulled upon lengthwise, thus preventing kyphotic deformity.

The ultimate fate of the bone graft, whether osteogenetic, as maintained by Macewen and others, or osteoconductive, as claimed by Axhausen, Murphy and others, is immaterial, as the result of bone union is had in either case.

In his experimental work in bone grafting in animals, Albee has successfully used bone preserved in salt solution and in Ringier's solution kept in cold storage for a period of four days, and microscopical examinations of these specimens made six weeks to six months after show no dead bone, a profuse blood supply to grafts, and firm bony union of graft to spine.

*Technique of operation.* Patient in ventral position; spinous processes are reached through a sufficiently long curved incision made to one side, skin flap turned up, super- and interspinous ligaments split. Spinous processes are split longitudinally in halves to a depth of about  $\frac{3}{4}$  of an inch with a

chisel, making greenstick fractures of the halves always on the same side, leaving the opposite halves intact to preserve leverage, after which a hot saline pack is applied to back wound thus prepared until bone insert is ready.

With patient still in ventral position, leg flexed on thigh, sufficient incision along the crest of the tibia is made down to the bone, the fascia and subcutaneous tissue are carefully separated from the periosteum of the anterior-internal flat surface of the tibia, and with a sand bag in the popliteal space and behind the leg, a long and thick prism-shaped piece of the tibia is removed with a chisel or motor saw, this piece being long enough to span the diseased vertebræ and include a healthy one above and below. This is placed in its bed between the split spinous processes and held in place by strong kangaroo tendon, drawing together the split supraspinous ligament. The implants have varied from 4 to 7½ inches long, ⅜ to ½ inch wide, and ¼ to ½ inch in thickness. The insert should include a portion of the marrow cavity.

The corrective force of the implant has varied from simply embedding a straight graft to a reshaping of the graft to somewhat approach the deformity, and then to forcibly bend this shaped graft into its bed and fasten its ends into position.

The operation, being superficial, takes but from 15 to 30 minutes, and therefore is accompanied with a minimum shock or hæmorrhage, and as it is distant from the neural arches there is no danger of encroachment upon the spinal canal by overgrowth of bone or infection, and no normal anatomical structure or support of the spine is severed or destroyed, but on the contrary taken advantage of. Immediate mobilization is secured of the diseased vertebræ, without disturbing the function of the rest of the spine or interfering with the respiration. The post-operative treatment consists simply of dorsal recumbency for a period of five to twelve weeks, and no external supports were used in any of the above cases except in one adult, who went back to his work as a carpenter seven weeks after his operation.

**Results.** All pain has disappeared in every case no later than the third day, and rapid improvement in general condition is striking. Four cases were complicated by complete paraplegia but cleared up in less than six months. Every wound has healed by primary union. Fifteen months have elapsed since early cases were operated on, and post-operative X-ray findings show union of graft to spinous processes and increased bone proliferation about implant and tips of spines, bone detail of the bodies after several months being clearer. There has been no mortality.

In cases of congenital clubfoot in children over 3 or 4 years old, where adduction of the front part of the foot predominates, Albee has taken a wedge of bone, usually from the upper end of the tibia of the other leg, and engrafted it into the transversely split halves of the scaphoid with gratifying results. In markedly adducted feet, where the

skeleton of the foot is shorter on the inner than on the outer side, a somewhat similar wedge of bone graft has been inserted which served to prop the foot in proper position. This procedure, with or without the insertion of silk ligaments, has been practiced on acquired deformities of a similar nature resulting from infantile paralysis.

Albee also offers this bone graft as an ideal treatment for ununited fractures of pseudarthrosis, where we have appearing early a marked sclerosis of the ends of the fragments, and where freshening the ends of the fragments and the application of the Lane plate has not been trustworthy because of bone sclerosis and lack of osteogenesis; for he thinks the bone graft applied as he describes best supplies what is needed above all, viz.: an added osteogenetic force, as well as perfect internal fixation. By this procedure he has secured bony union in all of four cases operated upon, in one case of which the pseudarthrosis had existed for 10½ months.

ROBERT E. LOULE.

**Cotte: Osteoplastic Diaphyseal Amputations and Bone Grafts** (Amputations ostéo-plastiques diaphysaires et greffes osseuses). *Lyon Chir.*, 1912, Nov. By *Journal de Chirurgie*.

The various amputations performed, while in the main satisfactory, still leave much work to be desired as to the ultimate result in certain cases.

The author speaks in favor of osteoplastic amputations of the leg. He reports one personal case — tuberculosis of the instep with sinus formation in a man 30 years of age. Circular amputation of the limb was performed, with application of an osteoplastic flap taken from the internal surface of the tibia; excellent functional result; the patient walks upon his stump without pain. Bier says that non-closure of the medullary canal is the principal cause of painful stump occurring after amputations performed by the ordinary methods.

The author had the idea of grafting an epiphysis upon the extremity of the divided bones; thus would he secure the double advantage of perfectly obliterating the medullary canal and of obtaining as in disarticulations an osseous epiphyseal stump, the bony lamellæ of which are admirably fitted to distribute the body weight. He has made one attempt of this nature in a tubercular knee. After a thigh amputation he grafted upon the inferior extremity of the divided femur a tibial epiphysis. Unfortunately the graft was not tolerated; a large hæmatoma formed, there was fever, and at the end of four days the graft had to be removed. One failure should not condemn the method. Other similar attempts should be made to establish the value of the procedure. The author remarks that the extreme conditions under which one advises an amputation are such as render infrequent the need of such a delicate intervention as epiphyseal grafting upon the end of the divided bone of an amputation stump.

CH. LENORMANT.

**Eve: Remarks on the Treatment of Sarcoma of the Long Bones.** *Lancet*, 1912, clxxxiii, 1355.

By Surg., Gynec. & Obst.

Sarcomata fall, for purposes of treatment, into three groups: (1) periosteal sarcomata; (2) central sarcomata composed of round and spindle cells; (3) myelomata.

1. *Periosteal sarcomata.* The periosteal sarcomata spread locally along the periosteum, endosteally through the medulla, and also along the muscles attached to the affected bones. Extension into the veins is early. The author believes that a patient with periosteal sarcoma of the femur should be given the remote chance afforded by amputation at the hip-joint, and removes the femoral lymphatic glands in the preliminary stage of the operation.

2. *Central sarcomata composed of round, spindle, or mixed cells.* Their relative benignity must be ascribed to their being surrounded by a capsule of bone. Central tumors of the lower end of the radius and ulna are less malignant than those of other bones. These growths, if well localized, and especially if spindle-celled, offer a tempting field for resection and the employment of the various methods of osteoplasty.

3. *Myeloma.* Although it has long been taught that the true myeloma has a low degree of malignancy, yet it is only in recent years that it has been recognized as possessing, at least in some situations, a purely local malignancy. The myelomata of the femur, and especially those of the upper end of the humerus, are sometimes followed by metastasis. The author quotes statistics to prove this.

This difference in nature depends rather on the seat of the disease than on the structure of the tumor. The nearer the body the greater the malignancy, would appear to be true of the myelomata as well as of the periosteal sarcomata.

The treatment adopted must depend on the size and extent of the tumor and its locality. The following operations are employed: (1) erosion; (2) resection; (3) amputation. Myelomata of the lower end of the radius and the upper ends of the tibia and fibula (especially the radius) are by far the most favorable for treatment by erosion or resection. Conservative treatment is much less likely to succeed in myeloma of the upper end of the humerus and in both ends of the femur. The true myelomata can usually be recognized by their slower growth, distinct delimitation, the absence of infiltration of bone, their maroon-red color, and often the presence of pulsation at some point.

When autoplasmic grafts are used, the periosteum of the graft should be preserved. In reference to Coley's toxins, he says that anything at all comparable to his successes has not been met with elsewhere, and he would not recommend Coley's fluid in any case of operable sarcoma, nor would he recommend it as a prophylactic against recurrence. The reports of other surgeons have borne out this deduction. Its use should be restricted absolutely to inoperable cases.

DONALD C. BALFOUR.

**Kerr: The Suturing of Tendons.** *Practitioner*, 1912, lxxxix, 639.

By Surg., Gynec. & Obst.

In injuries of this type, the workman's criterion of success of the treatment is the recovery of wage-earning power. The most frequent locations are the forearm, wrist, and hand.

In the first-aid treatment of this condition asepsis is paramount, the safest dressing being sterile lint covered with sterilized cotton wool. There should be no attempt to examine the wound until the conditions are perfect for asepsis. The diagnosis is first made on the specific action of the tendons in the region of the injury. For this the tourniquet must be removed, which is possible in most cases if the first aid dressing is large and tight.

Expose the wound, paint with iodine (without other wash), and control the arteries with fingers placed proximally to the wound, applying small forceps at once. Continue the subjective examination and inspection of the wound, bearing in mind the circumstances of the accident and particularly the act in which the affected hand was engaged at the moment.

Usually the proximal end is markedly contracted, the distal end rarely so. These are secured, a clean incision being made along the sheath if necessary to reach the proximal end. Local block method anesthesia is usually sufficient.

Chromicized gut is used for suture. Union of the tendon ends is effected by some method in which longitudinal splitting and pulling out cannot take place. For rounded tendons Schwartz's procedure is recommended; for flat, that of Von Arx. These are based on the fact that though a suture be tied around a tendon, necrosis of the end does not occur. Sheaths and fascia are sutured. The author advises Michel's clips for the skin to avoid stab infection.

The part should be immobilized for 14 to 21 days. Functional treatment is begun the third week, while the adjustment of length is still possible.

E. B. FOWLER.

**Ely: A Simple Operation for the Relief of Deformity in Certain Cases of Volkmann's Paralysis.**

*Am. J. Orth. Surg.*, 1912, x, 201.

By Surg., Gynec. & Obst.

Ely describes a simple procedure for releasing the contractures of the fingers in cases of Volkmann's paralysis, which he discovered while dissecting such a hand, which had been amputated three inches above the wrist five or six years after the paralysis occurred. He says, "The contracture was present though the hand had been amputated, hence the evident uselessness of a bone shortening or tendon lengthening in this case.

"The contracture in this case was due to some of the deeper intrinsic muscles of the hand, and apparently also to the adhesion of new granulation tissue binding the long flexor tendons to the front of the proximal phalanges of the fingers. We found that when we passed the blade of the scalpel on the flat, close to the anterior surface of the phalanx, dividing

these adhesions for a distance of about one half inch, we could easily reduce the contracture, but that until this tissue was divided the contracture could not be reduced.

"The contracture of the thumb was due to a tight contracture of the flexor brevis pollicis, and disappeared when this was divided.

"Now, whether all cases of Volkmann's paralysis are identical I do not know, nor whether this operation would be successful in another case, but I simply tell you what we found, and suggest that it be tried out when you have the opportunity."

JOHN L. PORTER.

**Albee: A Further Report of an Original Treatment for Tuberculosis, Arthritis Deformans, Old Fractures, etc., of the Hip.** *Post-Graduate*, 1912, xxvii, 1017. By Surg., Gynec. & Obst.

Albee reports his ankylosing of the hip in 31 cases, of which 20 were arthritis deformans, 9 tuberculosis of the hip, one a cured tubercular hip, one an old ununited fracture of the neck of the femur with pain and limitation of motion, with ages varying from 22 to 67 years. Albee also states that in 5 of the 17 the process began under 25 years, and concludes that non-articular arthritis deformans of the hip begins in a large percentage of cases in the young or middle-aged, and that therefore the term "senile coxitis" is distinctly a misnomer, though this is contrary to most writings on this subject.

*Technique of operation.* The hip joint may be approached in two ways — by an anterior straight incision, or by U-shaped lateral one and turning up the great trochanter — the latter being preferable to the former in very fat subjects. The joint is reached anteriorly by an incision 5 or 6 inches long starting from just below and inside of the anterior superior spine of the ilium and extending downward, the sartorius and rectus femoris muscles are retracted outward, and the iliacus and psoas magnus are pulled inward, after which all the deeper muscles and structures are separated by blunt dissection. That part of the acetabulum overhanging the head is next removed, exposing the head and facilitating its removal. Approximately one half of the upper capital hemisphere is separated through a plane nearly parallel with the long axis of the femoral neck. The portion to be removed is split, in situ, at right angles to its cut surface with a small osteotome into segments, which are then extracted. The upper part of the acetabulum is transformed into a flat surface, against which the flat surface of the head is finally approximated by abduction of the thigh; the femur is strongly rotated outward; the cartilage on the anterior aspect of the remaining portion is removed, as well as the cartilage on the contiguous surface of the acetabulum, in order to get an ankylosis in two planes at right angles to each other.

To prevent recurrence of adduction deformity after operation tenotomies of the adductor muscles and tendons are done, and both thighs are enveloped in a double spica, one on the operative side to the

toes and one on the well side to the knee, with both limbs in abduction.

Albee, in conclusion, states he believes the field of this operation should be extended to include all conditions which if they existed at the knee joint would be rightly treated by an excision, and emphasizes the fact that the hip is better adapted to this kind of treatment than the knee. He concludes by enumerating the advantages of the operation, which are, briefly:

1. Minimum amount of bony shortening, which is compensated for, as well as that already existing by fixed abduction.

2. Brings large bony surfaces into close approximation and holds them there by the correction of the deformity, thus assuring bony ankylosis and eliminating a painful joint and recurrence of deformity.

3. Dislocation of the femur or its displacement extremely unlikely even from weight-bearing immediately after operation, thus permitting aged patients to get out of bed very early.

4. Involves very little cutting of soft tissues and does not require dislocation of head from its socket, thus producing very little post-operative shock, even in old people.

**Stiles: The After Results of Major Operations for Tuberculous Disease of the Joints.** *Brit. M. J.*, 1912, Nov., 1364. By Surg., Gynec. & Obst.

This paper must be read to be appreciated. It is a presentation of a series of cases of tuberculous joints in children on which the author has performed radical major operations. His mortality is high, but it must be remembered that the type of case subjected to operation is one far advanced in the disease. The paper is distinctly not an appeal for operation in all cases, for Mr. Stiles practices and recommends conservative treatment in earlier cases. For 14 years, as surgeon to the Royal Edinburgh Hospital for Sick Children, the author has consistently advised operation in the severe type of tuberculous joint which has resisted conservative methods or is brought in late in the disease and is practically in the final stage. He takes up the objection which is usually advanced against resection in children, namely, the shortening which may follow. While the number of his cases is not great enough to settle the point, it is quite clearly shown that this objection is probably overestimated considering the seriousness of the cases. Probably the greatest cause of the difference between Mr. Stiles and his critics is that the latter do not appreciate the desperate type of case that the former is considering and operating on. The paper is well worth the careful study of the orthopedic surgeon, the general surgeon, and the medical man.

M. S. HENDERSON.

**Watkins: Concerning the Operative Treatment of Claw-Foot.** *Am. J. Orth. Surg.*, 1912, x, 230. By Surg., Gynec. & Obst.

Watkins describes a modification of Sherman's operation for claw-foot or hollow foot due to par-

alysis of the lumbricales muscles and consequent dropping of the metatarsal heads and contractures of the plantar fascia and muscles.

He first flattens out the foot by wrenching and division of the plantar fascia. When the foot is flat the tendo achillis is divided. This preliminary flattening may require two or more seances. Then he makes a longitudinal incision on the outer side of the dorsum of the foot, exposing the fourth and fifth metatarsal bones. These are drilled laterally in one maneuver without withdrawing the drill, and a strong piece of silk is drawn through both bones and cut so as to leave each bone with a piece of silk running through it. Through a similar incision on the inner side of the dorsum the second and third metatarsals are drilled in the same way and threaded with silk, and the drill is then reversed and passed through the first metatarsal, and that is threaded. That leaves each metatarsal bone threaded with a piece of strong silk drawn through a perforation near the head.

An assistant plantar flexes the toes and dorsi-flexes the foot, thus pulling down the extensor tendons. The silk ends are then basted into the tendon and it is tied down onto the corresponding metatarsal above the point of perforation. The knots are crushed flat and tendon sheaths allowed to fall back into place without suturing.

The skin wounds are then closed and the foot put up in plaster of Paris with the toes plantarflexed to relieve the strain on the tendons. The plaster casts are left on six weeks. After that the patient begins to make voluntary motions with the foot and toes, but does not step until some weeks later. Ten months after operation the first case in which this technique was used showed steady improvement in the amount of voluntary control, and decrease in the deformity.

J. L. PORTER.

**Färber and Von Saar: Technique of Resections of the Foot by Means of a Longitudinal Incision.** *Beitr. z. klin. Chir.*, 1912, lxxxii, 175.

By Surg., Gynec. & Obst.

The author makes a plea in favor of the method of resection of the foot proposed by Obalinski in 1890. This method consists in a partial antero-posterior hemisection of the foot, with disarticulation of the cuneiform bones and of the cuboid. The advantage obtained by this procedure is that the greatest number of tendons, blood-vessels, and nerves are spared. In carefully chosen cases, especially those of tuberculosis of the fore part of the foot (metatarsal, cuneiform, and cuboid bones), it may give good results, as Färber and Von Saar have demonstrated in 4 cases which they operated in Von Hacker's clinic. The authors go even further in that they extend the sagittal hemisection through the entire foot, cutting the calcaneum with a saw; their experiments on dead bodies prove to their satisfaction that this total hemisection is of great value. They claim that it is a simple matter to combine Obalinski's hemisection with the external

retromalleolar incision of Kocher, in this way making it possible to lay bare all the joints of the anterior and posterior tarsus with a minimum amount of damage to the foot. This method, however, has not yet been tried by the authors upon the living body.

They conclude that the method of Obalinski, in its pure or in its extended form, should be retained as a useful operation which gives good results in the treatment of tuberculosis of the foot, the treatment of which has always been thankless and difficult.

E. S. TALBOT, JR.

**Cilley: Treatment of Traumatic Flat-Foot.** *Am. J. Orth. Surg.*, 1912, x, 221.

By Surg., Gynec. & Obst.

Cilley describes the treatment of various forms of traumatic flat-foot, and divides them clinically into three classes — mild, severe, and more severe. The first group, which is caused by strains and sprains about the ankle joints, he treats, if seen early, by strapping with adhesive plaster, either by the so-called basket method or with "the long-stirrup and figure-of-eight." If done promptly this effects a cure.

The second group, due to "bad sprains with some rupture of ligaments and severe contusions without discoverable bone injury," is given a few days' rest with a snug bandage until the swelling and ecchymosis have subsided, and are then strapped in the adducted position or put up in plaster of Paris, and the patient permitted to walk. Where the abductor spasm is marked and the foot is in valgus position, this must be overcome, in one or two seances if necessary. After each seance the gain in adduction is held by a fixed dressing.

The author calls attention to the fact that the patient can often adduct his own foot more successfully than the operator, and proposes an ingenious maneuver to enable him to do so. Constant use of the foot in corrected position, supported by appropriate fixation dressing, is insisted upon as being of value in securing a more rapid use and better function.

In the third class, with fracture, dislocation or other bone injuries, the author reminds us that our object is to get a useful functional foot, and not regard cosmetic results. To do this the foot must be brought into abduction throughout its entire length, and severe twisting or wrenching under anæsthesia may be necessary. At the same time the foot must be kept at a right angle to the leg and the big toe in position to touch the ground. Then the foot is fixed in plaster until it can be supported in its proper position by a shoe with tilted sole, and a foot plate if necessary.

J. L. PORTER.

**Denk: Free Fascia Transplantation.** *Arch. f. klin. Chir.*, 1912, xcix, Nov.

By Surg., Gynec. & Obst.

The article contains details of all the case reports from von Eiselsberg's clinic in which free trans-

plantation of fascia was employed. To cover defects in the dura and the protection of prolapsed brain after removal of brain tumors, were the conditions in which the free transplantation of fascia was most frequently used — 19 times. It was used also twice in covering mobilized joints, twice to strengthen the sutures in the peritoneum after ventral herniotomy, once to secure an intestinal suture after resection of the rectum, and finally three times to bridge over defects in the urethra.

The results are summarized as follows: Among the 19 cases of fascia plastic operations on the dura, 4 died of shock; 9 cases recovered with primary union; in 3 cases there were liquor fistulae, one of which died of meningitis; prolapse of brain occurred 4 times, in 2 instances the prolapse being quite expansive, leading to secondary meningitis, with death. Two prolapse cases were of slight degree, one of which occurred several weeks after complete healing of wound by primary union. The last case should not be considered as a failure of the plastic operation, since the tumor was not found at the time of operation and, presumably by its increase in size, pushed the bone-flap outward before it had time to unite.

The value of the operation in brain tumors on the whole is considerable. The fascia unites with the dura without trouble, and there is subsequent obliteration of the subdural space from the outside, so that prolapse and liquor fistula is prevented. But in order to avoid altogether such complications it is advisable to place the fascia flap with a wide margin over the dura and to unite them with a double row of continuous sutures.

In the two cases of ankylosed joints (elbow-knee), complete recovery with good function occurred. In the strengthening of suture lines and the bridging over of defects, the use of the fascia in aseptic localities is especially of great value. In septic cases the method is uncertain.

M. BUCHSBAUM.

#### **Bräunig: Amputations of the Lower Limb.**

*Deutsch. med. Wochenschr.*, 1912, XXXVIII, 2071.

By Surg., Gynec. & Obst.

The author has collected statistics of the amputations performed in the surgical clinic of Rostock during the years 1901-1912, with a view to studying the final functional results obtained, especially the capability of the stump for supporting the weight of the body. Of 122 amputations of the thigh or of the lower leg, Bräunig finds but a small number which afterward were able to sustain the body weight.

He speaks highly of the results obtained by the procedures of Pirogoff and Gritti. In the majority of cases, even where suppuration had been present, the patients were able to walk on the stumps. Among the amputations of the thigh the author found only a single case, and in those of the lower part of the leg only 8 cases, in which the stumps were fit for use.

Bräunig lays stress on the great usefulness of post-operative treatment. He emphasizes the great necessity of early and prolonged massage of the stump. This treatment, which is too often neglected, has enabled a number of patients to make active use of the stump.

E. S. TALBOT, JR.

## ORTHOPEDIC SURGERY

### DISEASES AND DEFORMITIES OF THE SPINE

**Malkwitz: Dislocation of the Cervical Vertebrae Without Symptoms Referable to the Spinal Cord.** *Arch. f. Orth. Mech. u. Unfallchir.*, 1912, XI, No. 4.

By Surg., Gynec. & Obst.

Reports of 9 cases from the clinics of Hoeffman, Königsberg and Kocher in 1896 and of Hautschel in 1907 stated that dislocations and fractures of the vertebrae result always in lesions of the spinal cord. That such is not always true is shown by the 9 cases in which total dislocation of a cervical vertebra was demonstrated by X-ray pictures. In none were paralytic symptoms shown, nor did the patients suffer from great functional disturbances.

**Bottomley: The Surgical Treatment of Injuries of the Spinal Column Affecting the Cord.**

*Boston M. & S. J.*, 1912, clvii, 691.

By Surg., Gynec. & Obst.

The treatment of all spinal injuries is determined by the presence, absence, and the character of injury to the cord.

So-called "concussion of the cord" has no distin-

guishing symptoms, and consequently is of no clinical interest.

Simple contusion of the cord is difficult of diagnosis and rarely exists alone. Its treatment is non-operative.

Hæmorrhage within the spinal canal may be extradural, intradural or intramedullary (hæmatomyelia). The extradural and intradural forms are usually not of great importance, and the occurrence of either or both is not to be regarded as an indication for operation unless compression of the mid-cervical cord by the hæmorrhage directly imperils life. When intraspinal hæmorrhage is severe it is usually the accompaniment of more grave cord injury, and its treatment is involved in that of the more severe lesion.

In hæmatomyelia, operation cannot be of avail. Destruction of the gray matter is instantaneous, and such pressure as exists on the white matter will be relieved by the subsequent process of absorption.

Operation is not indicated in complete transverse lesions of the cord, because of the fundamental fact that the axones of the spinal cord (exclusive of the cauda equina) are without neurilemmata, and are

consequently entirely incapable of functional regeneration after division or destruction. Surgeons in general have not accepted as convincing any clinical or experimental evidence yet presented in support of the opposite view.

Though experience has shown that the diagnostic line between complete and partial lesions of the cord is not always an absolute one, yet definite and permanent absence of the deep reflexes, the most striking feature of total lesions, may safely be regarded as of absolute worth in practically all cases (the Bastian-Bruns law).

A temporary loss of these reflexes has been observed in many cases of partial lesion of the cord. Sencert and Auvray look on the early appearance of the reaction of degeneration in the affected nerves as the diagnostic mark of a total lesion.

It is probable that in the future operations for total transverse lesions will be undertaken only with the idea of trying to make an anastomosis of the nerve roots above and below the lesion.

If the diagnosis of a partial lesion of the cord is certain, and no evidence of spinal deformity is found, operation is not indicated, at least as an immediate measure. If there is spinal deformity, active treatment should be instituted. Active treatment does not always mean operative treatment. In certain cases the effect of position, traction, "gravity reduction," etc., should be tried first. Later, operation may become necessary, and it is to be advised if the nerve symptoms have not improved spontaneously or if aggravation of the nerve symptoms is in evidence.

In isolated, depressed and displaced fractures of the spinal arches, with signs of a partial lesion of the cord, operation should be undertaken promptly. Likewise, in fracture-dislocations, with symptoms pointing to a partial lesion, operation is indicated.

In fracture or deformity of the midcervical region, where there is danger of pressure on the fourth cervical segment, operative treatment is to be advised.

Operation is indicated in all lesions of the cauda equina.

Do not regard laminectomy as a harmless operation. Be conservative in using it as an exploratory measure. If laminectomy is undertaken, it should be done with all possible gentleness and with particular attention to hæmostasis.

**MacCordick and Nutter: Traumatic Spondylolisthesis Following a Fracture of a Congenitally Deficient Fifth Lumbar Vertebra.** *Am. J. Orth. Surg.*, 1912, x, 214.

By Surg., Gynec. & Obst.

The authors describe the autopsy findings in the case of a man of 37 who received a crushing injury to his spine from a heavy steel beam which fell upon his back. Paraplegia followed immediately, laminectomy was performed and the second lumbar vertebra was wired to the third. He never recovered from the paralysis, but lived two years. At the autopsy it was discovered that the fifth lumbar

vertebra was displaced forward 2 cm., and further examination revealed that the neural arch of this vertebra was separated from the body, and probably had always been, as a false joint existed between the fragments on both sides of the arch, covered with periosteum, and the left half of the arch was smaller than normal.

The intervertebral disc between the second and third vertebrae was missing and the vertebrae united by cartilage, the second being displaced laterally upon the third. The authors believe the disc disappeared by absorption following the injury, as there was evidence of its having protruded into the neural canal, and the cord showed evidence of crushing injury at that point.

J. L. PORTER.

**Reynolds: The Diagnosis and Treatment of Compression Paraplegia.** *Brit. M. J.*, 1912, Nov., 1140.

By Surg., Gynec. & Obst.

The paper is largely taken up with causes and symptoms of compression paraplegia. Among the causes, the author points out that occasionally an obscure paraplegia may be due to a metastasis from a malignant growth elsewhere in the body. This primary growth may be very small and easily overlooked such as small breast cancers or thyroid cancers. The treatment is usually surgical. Operation is recommended in those cases due to tuberculous caries rather than to trust to too prolonged rest (the conservative method of treatment), whereby permanent damage may ensue before the inflammation has subsided. Reynolds condemns delaying laminectomy too long in doubtful cases.

M. S. HENDERSON.

**Roberts: The Treatment of Pott's Disease by Hypersection.** *Post-Graduate*, 1912, xxvii, 1033.

By Surg., Gynec. & Obst.

Roberts reports the results of two years' work in Pott's disease, showing by photographs and tracings the effect of plaster jackets applied in hyperextension by means of the "jack and sling," an apparatus devised by him three years ago. The machine is extremely simple, portable and apparently more efficient than any apparatus previously used. It consists of an automobile jack to which is attached a horizontal bar carrying a bandage sling about three inches wide. The theory of its operation is to make the diseased area a fixed point by placing the kyphos on the bandage, which, as the jack is operated, raises this part and allows the distal ends of the spine to fall away from it, thus producing a gap between the diseased vertebrae. A plaster jacket applied in this position maintains the relations of the bones, and when the patient is placed on his feet, weight-bearing is taken up by the lateral articular facets and the diseased bodies are relieved of pressure and friction. Roberts' cases show that where treatment is begun early deformity is never marked, and in some instances has been entirely prevented. In older conditions the deformity has been greatly reduced. No abscesses occurred in the

early cases, and the period of treatment was considerably shortened. The method is advised for all lesions below the eighth dorsal vertebrae, and the published results seem convincing as to its efficacy.

**Elmslie: The Varieties and Treatment of Lateral Curvature of the Spine.** *Lancet*, Lond., 1912, clxxxiii, 1430. By Surg., Gynec. & Obst.

Lateral curvature of the spine is classified according to pathological causes: (1) congenital; (2) rickety; (3) secondary, which may be due to (a) tilting of the pelvis from shortness of one leg, (b) tilting of the pelvis from fixed adduction of one hip, (c) torticollis, (d) fibrosis of the lung or adherent and thickened pleura, or (e) spinal caries; (4) paralytic; (5) adolescent or static, which includes the greater proportion of cases; (6) hysterical. The anatomical varieties are: (1) postural curves — the position is one which the normal spine can assume; (2) structural curves — the position is one which the normal spine cannot assume. In any case there may be one or more of three elements of deformity: displacement, deviation, and rotation. The author considers the different explanations offered for the deformity of rotation. *Postural curves*: those which represent an attitude of the spine which is normal in certain attitudes, but which is abnormal in that it has become habitual. *Structural curves*: those which represent an attitude which is not possible to the normal spine. The commoner lateral curves may be classified as follows: (1) weak spine; (2) single curves; (3) transitional curves; (4) double curves; (5) treble curves.

*Treatment.* The problem of treatment is purely mechanical and involves four methods: (1) The strengthening of the spinal muscles or of certain sections of them; (2) the training of the spinal muscles so that the patient without voluntary effort assumes a symmetrical habitual posture; (3) mechanical and forcible stretching of the spine to undo curves which have become at all fixed; (4) mechanical support to the spine to prevent increase of the deformity. D. C. BALFOUR.

**Bradford: Scoliosis; A Corrective Jacket Applied in Sections.** *Am. J. Orth. Surg.*, 1912, x, 178. By Surg., Gynec. & Obst.

Bradford describes a method of applying corrective jackets of plaster of Paris for the correction of scoliosis. By this method the pelvis is fixed in the desired position and enclosed in plaster dressing. Then the position and relation of the shoulder girdle is similarly corrected and fixed, and after the plaster has set the middle section, represented by the ribs, is corrected as much as possible, and by a third section of plaster bandages is connected with the other two sections. J. L. PORTER.

**Lord: The Treatment of Scoliosis by Plaster, Supplemented by Pneumatic Pressure.** *Am. J. Orth. Surg.*, 1912, x, 183. By Surg., Gynec. & Obst.

The author describes a method of treating fixed type of scoliosis by plaster of Paris jackets. Large fenestra are cut over the abdomen and breasts and

under the high shoulder. The plaster is carried up over the shoulder so as to make pressure against the neck. The low shoulder is held up by a wide padded strap attached to the plaster of Paris, while the high shoulder is held back by a similar strap.

In addition to the usual corrective pressure exerted by the cast, he resorts to the introduction of pneumatic pads under the casts when they are put on, and by subsequent inflation additional corrective pressure can be made against the prominent ribs in front and behind. These pads are made of sections of the inner tube of automobile tire from four to eight inches long, with the ends vulcanized together so as to make a closed bag. A bicycle valve is set into the edge of the pad, and this is so placed that when the fenestra are cut out of the casts the valve protrudes so as to permit of inflation with a bicycle pump. In this way graduated pressure can be exerted up to the limit of tolerance. Reference is made to similar use of pneumatic pressure by others — Bade, Lubinus, Bilhaut, and McHenry.

J. L. PORTER.

#### MALFORMATIONS AND DEFORMITIES

**Ridlon and Thomas: Absence of the Bony Femoral Heads and Necks.** *Am. J. Orth. Surg.*, 1912, x, 205. By Surg., Gynec. & Obst.

The authors call attention to the rarity of congenital defects in the upper end of the femur and cite briefly the references in literature to such conditions.

Two cases are reported of rachitic children in which no femoral heads could be detected by palpation or X-ray plates. One child was 2 years old, the other was 7½.

In one case (Thomas), after treatment by recumbency and anti-rachitic diet for something over a year, the X-ray plate revealed a head and neck present on both sides, one in the acetabulum and one displaced. The older case (Ridlon's), after three years without treatment, shows an increase in lordosis; the child has grown little, if any, and walks with difficulty. The upward displacement has increased. The X-ray plate shows a suggestion of a femoral head in the acetabulum but no neck.

As the condition in both these cases seemed to be due to the severe rachitis and later showed evidence of development of the femoral heads, the authors believe the ossification in these cases was simply delayed, and propose calling the condition an absence of the bony heads and necks of the femur. Anti-rachitic feeding and recumbency to prevent deformity due to weight-bearing would seem to be the treatment indicated. J. L. PORTER.

**Stevens: Cause, Prevention, and Cure of Weak and Flat Feet.** *N. Y. M. J.*, 1912, xcvi, 957. By Surg., Gynec. & Obst.

Despite the title, the article is chiefly a discursive description of the author's idea of the mechanics of weight-bearing in the foot. He believes the chief source of strain, which results in weak and flat feet, is the lack of support of the base of the fifth metatar-

sal bone in our ordinary shoes. The fact that the structure of the sole of the foot fits it for its function as a "shock absorber" is well explained in the author's very interesting exposition of the various intricate mechanical factors involved in the foot in sustaining and propelling the body weight.

The only suggestion as to treatment of weak feet is that the inner side of the sole should be raised so as to throw the weight toward the outside of the foot, and give the base of the fifth metatarsal a firm, rigid support in the same plane as the ball and heel.

J. L. PORTER.

## SURGERY OF THE NERVOUS SYSTEM

### **Collins and Armour: The Metastasis of Hypernephroma in the Nervous System: Jacksonian Epilepsy Caused by Such Lesion.**

*Am. J. M. Sciences*, 1912, cxliv, 726.

By Surg., Gynec. & Obst.

It is a well-known fact that tumors of the adrenals may exist without symptoms, and that metastasis of such tumors may occur in parts of the body remote from the adrenals, without previous or coincident manifestations of disease in the adrenals. At times one has to distinguish bone metastasis of it from brachial, pelvic and other forms of neuralgia, but these are of rare occurrence.

The author reports a case of Jacksonian epilepsy which was found to be dependent upon a metastasis of hypernephroma. The patient was a Bohemian cigar-maker, aged 45 years, who had not been ill since childhood until he had an attack of unconsciousness four months before he entered the Neurological Institute in July, 1911. This attack came on suddenly while he was at work, May 9, 1911. He felt a twitching of the left thumb and forefinger, followed by a sensation of numbness and tension gradually extending up to the shoulder, and then he lost consciousness. Within an hour he felt quite well again, save that he was weak and discouraged. Five hours later he had a second attack, but without loss of consciousness. Within a few days he began to have attacks characterized by paræsthesia in the left hand and forearm and twitching of the thumb and index finger, which were not accompanied by any disturbance of consciousness and which were not followed by any loss of dexterity. He had from one to five such attacks every day for three months following the original attack. Later he had three attacks, each typical of Jacksonian epilepsy. A physical examination at this time failed to reveal any disease of the brain, nor did the patient complain of any symptoms save those that have been enumerated. In September, 1911, he had developed a slight somnolency. Wassermann examination of the blood and cerebrospinal fluid was negative. In the latter part of September he developed a rhythmic movement of the thumb and index finger, the movements being at the rate of 1 per second. He also complained of severe pain in the back of hand and wrist. There was no disturbance of contact or thermal sensibility.

Five months after the initial symptom, the patient, while lying in bed, had a series of convulsions and died.

Autopsy showed a large whitish tumor in the right flank. This tumor had invaded the upper pole of the right kidney, surrounded the adrenal, and extended into the under surface of the right lobe of the liver. Small metastases were found in other parts of the liver as well as near the junction of the jejunum. The only other metastasis found was in the right cerebral hemisphere. This was 1½ inches in diameter, situated one fourth of an inch below the surface midway between the vertex and the base, that is, in the arm area, and more particularly in the hand area.

We also find metastasis occurring in the ovaries and testicles. This conception of hypernephroma must lead one to regard it as a congenital phenomenon. These secondary tumors more commonly occur in bone, this case being only the third of its kind on record.

H. A. POTTS.

### **Chalier and Bonnet: Neurotomy of the Superior Laryngeal Nerve in Tuberculous Dysphagia; Anatomical Considerations; Technical Indications**

(La névrotomie du nerf laryngé supérieur dans la dysphagie tuberculeuse: données anatomiques; indications techniques). *La Presse méd.*, 1912, xx, Nov.

By Journal de Chirurgie.

In the treatment of painful dysphagia due to laryngeal tuberculosis or laryngeal cancer, excellent results have been obtained by the intraneural injection of cocain, alcohol, and other agents in the superior laryngeal nerve. In spite of the simplicity of this method, it is a blind procedure and has all the disadvantages of such procedures. The nerve may have a more or less abnormal course and thereby escape the needle and the injection. Furthermore, one runs the danger of puncturing the thyrohyoid membrane and injecting the syringe contents into the pre-epiglottic space in the laryngopharyngeal grooves, and thereby determining regional œdema productive of symptoms of greater or less severity. In some cases the result of the injection is slight and of short duration; repeated injections may be necessary.

Owing to these disadvantages, the authors suggest a procedure which can be used alone or as an adjunct to the various analgesic methods. They suggest the resection of the internal branch of the superior laryngeal nerve. They proceed as follows. The patient is placed in the same position as for ligature of the external carotid. The operator is on the side of the patient on which is the nerve

which is to be resected. The assistant is on the opposite side, pushing the hyoid bone toward the operator. The operation is done under local anæsthesia. There are three main landmarks — posteriorly, the anterior edge of the sterno-cleido-mastoid; superiorly, the inferior edge of the hyoid bone; inferiorly, the superior thyroid cartilage. The operation is performed in three steps. First, a horizontal cutaneous incision 4 cm. long, midway between the hyoid bone and the thyroid cartilage and extending from the anterior border of the sterno-cleido-mastoid to within 1 cm. of the median line. The second step is the incision of the superficial cervical aponeurosis. This is also a horizontal incision and should be of the same length as the cutaneous incision. The posterior border of the thyrohyoid muscle is located behind, and the lateral notch of the thyroid is located below by the index finger. By keeping in front of this notch the operator avoids injuring the external laryngeal nerve. The third step consists in exposing and dividing the superior laryngeal nerve. This nerve is sought in the retrothyroid space. It is deeper than the superior laryngeal vessels, but like them it courses upon the thyrohyoid membrane and is found about midway between the hyoid bone and the thyroid cartilage.

The superior branch is exposed. A thread is placed around it and its divergent ramifications become manifest. Only the horizontal branch of the nerve calls for division, the section being made between the terminus of the nerve and the origin of the external laryngeal. No traction is exerted upon the central segment of the nerve, as this might produce respiratory reflexes. One may add, if he deems it necessary, to simple division of the nerve, the excision or avulsion of the peripheral end of the superior branch.

J. DUMONT.

**Bérard and Chaliér: Traumatic and Operative Lesions of the Cervical Pneumogastric** (Les lésions traumatiques et opératoires du pneumogastrique au cou). *Lyon Chir.*, 1912, viii, 461.

By *Journal de Chirurgie*.

The gravity of these lesions must not be exaggerated, and they must not appall surgeons in performing operations upon the neck. The authors report 8 cases, in 2 of which the right pneumogastric and sympathetic were resected in the course of operation for removal of malignant tumors. In one of these patients, operated upon two years ago, there were no immediate nor late symptoms. Recovery occurred and persists. The other patient died on the fourth day after operation from pulmonary complications, with a rapid pulse of low tension. These accidents, however, differed in no way from those which are often noticed after prolonged, shock-producing operations during which air enters into the veins. In 6 other cases Bérard and Chaliér observed pneumogastric irritation due to operative maneuvers. They noted irregular respirations and slowing of the pulse, but these were only short

alarms, and in not one of the cases were secondary pulmonary phenomena manifested.

The study of the scattered cases reported in the literature confirms this habitual innocuousness of pneumogastric resection. Irritation of the pneumogastric is more dangerous than section or resection.

*Traumatic injuries.* They are uncommon — may be due to gunshot wounds, to stab wounds, to fractures of the hyoid bone, etc. In the majority of cases they are complicated by lesions of neighboring nerves (sympathetic, hypoglossal, etc.) or by lesions of contiguous vessels (carotid artery, internal jugular vein). The complexity of the lesion in these cases makes it difficult to determine which symptoms are due to injury of the pneumogastric or which are due to injury of the other organs. Respiratory disturbances, paralysis of the corresponding vocal cord, and at times coughing and dyspnoea are noted. Cardiac symptoms are present also; acceleration of pulse. Digestive disturbances are exceptional. These lesions give a bad prognosis. In 14 cases that were followed, there were 7 deaths and 7 cures. Two of the deaths were due to asphyxia and 5 to pneumonia. Vocal and respiratory disturbances usually disappear after a few weeks. There have been permanent laryngeal paralyses.

*Operative division or resection of the nerve.* This is more interesting, for the precise effect of the nervous lesion can be determined. The authors collected 54 cases, almost all occurring during the operative removal of malignant tumors of the neck. All were unilateral. There is no known example of bilateral vagotomy in man. In the lower animals, bilateral division of the pneumogastric is always fatal. The ligature or partial resection of the neighboring large neck vessels was often practiced at the same time — the jugular 32 times, the carotid 28 times.

The effects of vagotomy must be considered: (1) With reference to the heart. At time of the division there is a sudden acceleration of the pulse, exceptionally preceded by slowing. This tachycardia is never associated with alarming symptoms, and disappears in a few hours or in a few days. (2) With reference to respiration. Outside of recurrent paralysis, which is the rule, immediate respiratory symptoms are nil, or so light that they escape detection. The secondary pulmonary complications are frequent, are explained by the nature of the operation, and do not depend upon unilateral vagotomy. (3) With reference to the digestive apparatus. Dysphagia has been noticed, but only in cases in which it could be explained by the seat of the operation (tongue, pharynx, œsophagus). So that it can be said that unilateral division, be it on the left side or on the right side, of the normal or of the diseased pneumogastric nerve, has in itself no gravity. The divided nerve should, if possible, be sutured; laryngeal paralysis may thereby be improved.

*Operative irritations.* They constitute the most serious traumatism of the nerve, especially when

the irritation is strong, (ligature, pinching); simple denudation or stretching of the nerve determine only temporary symptoms. In cases of violent irritation there have been noticed, with reference to the heart, temporary slowing of the pulse, temporary stopping of the heart, and even mortal syncope; with reference to respiration, violent or continuous dyspnoea, momentary arrest of the respiratory movements, and at times permanent arrest of the respiration; with reference to the digestive apparatus, nausea and vomiting. Never have any late pulmonary complications been noticed. The fatal accidents are usually due to conditions independent of the nerve lesion (anæsthesia, cachexia, hæmorrhage, etc.).

CH. LENORMANT.

**Sicard and Desmarest: Dorsal Spinal Gangliectomy** (Gangliectomie rachidienne dorsale). *La Presse méd.*, 1912, xx, Nov.

By Journal de Chirurgie.

In tabetic gastric crises and in certain intercostal neuralgias, Franke proposed intervention at the level of the intercostal spaces and extirpation of the spinal ganglia by traction upon the exposed intercostal nerves as they emerge from the intervertebral foramina. Usually, in this operation, the nerve is ruptured at a distance varying from  $\frac{1}{2}$  to 1 cm. from the spinal ganglion, and owing to this the operation is ineffective. To surely remove a ganglion one must divide the costotransverse ligaments, free the intervertebral foramen, and with a curved sound expose the nerve as it escapes from the vertebral column. The nerve can be exposed by this method and the ganglion extracted, but it is at the expense of tissue lacerations, and the pleura and the dura are injured. One notes that the dura mater is solidly attached to the periosteum by fibrous bands extending beyond the ganglion and merging into the neurilemma of the intercostal nerve. In pulling away the ganglion one injures the meninges; serious consequences may result.

The authors propose, for exposure and removal of spinal ganglion, a simpler route. After a laminectomy and exposure of the epidural space, the different medullary roots are identified, ligated and divided close to the spinal cord, but without opening the dura mater. Then, with the aid of a Kocher forceps the ganglion with the attached roots in the intervertebral foramen is removed.

This operation, to which they give the name of

extradural-spinal gangliectomy has the following advantages: It is benign, because it permits the removal of the ganglion without injury to the dura mater, and therefore without loss of any cerebrospinal fluid. Furthermore, it permits complete removal of the ganglion and acts upon the sympathetic system by removing the anastomotic sympathetic filaments. This operation, however, will not often be practiced upon tabetics, as in them the radicular ganglionic lesion is not definitely localized, the meningitis is usually, if not always, diffuse, and the inter-ganglionic anastomoses are too numerous to be effectively suppressed. This operation is the operation of choice in certain intercostal neuralgias and also in the painful sequelæ of intercostal zona.

J. DUMONT.

**Bungart: Resection of Posterior Dorsal Roots for the Treatment of Gastro-Intestinal Crises in Tabes Dorsalis** (Ein Beitrag zur Frage der Behandlung gastro-intestinaler Krisen bei Tabes Dorsalis durch Resektion hinterer Dorsalwurzeln). *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1912, xxv, 702.

By Surg., Gynec. & Obst.

The author reports three cases of tabes with gastro-intestinal crises operated on by Förster's resection of posterior dorsal roots. The results were satisfactory in general. In the first case the gastro-intestinal trouble was completely removed, the second case was much improved, and in the third case the crises did not occur again. This is in accordance with the observations of other authors. Of 43 cases operated, 35 are reported as cured or considerably improved. The majority were severe cases, and in some there was a vital indication for the operation. No relapses have taken place in cases which were seen one and one and a half years after operation, this period is, however, not long enough to speak of a permanent cure. The operative procedure is as follows: After incision, the musculature is loosened, the vertebral arches resected, and the wound surfaces covered with thick compresses and pulled apart with especially constructed long, broad, sharp hooks, thus allowing good view of the field of operation and control of otherwise disconcerting parenchymatous hæmorrhages. The resection of the roots follows, and takes but a few minutes. The author does not consider the loss of cerebrospinal fluid as dangerous as some. This is however, different if cerebral tumors are present.

E. S. TALBOT, JR.

## DISEASES AND SURGERY OF THE SKIN AND APPENDAGES

**Hesse: The Origin of Epithelial Cysts.** *Beitr. z. klin. Chir.*, 1912, lxxx, Oct.

By Surg., Gynec. & Obst.

It has been taken for granted that this question was a settled one, and that it was now proven, both by the anatomic and clinical observations of Gross, Reverdin, and Garre, and by the experiments of

Kaufmann, that the traumatic cysts which are found most commonly on the fingers are due to the inclusion of the hypoderm and subcutaneous cellular tissues of the small fragment of the epidermis. This latter development gave rise to the traumatic epidermoid cyst. Each has attempted to establish, experimentally, Pels-Leusden's theory

as to the pathogenesis of these cysts. The author attributes their origin to ectodermic epithelial débris derived from the glands of the skin or from the sheaths of the hair molecules, and his experiments on rabbits show that in certain cases the sheaths of the hair follicles and glands of the skin may give rise to a cyst formation which is in all ways analogous (epidermoid).

The conclusion drawn is that the theory of Pels-Leusden is not to be ignored, and that though these cysts may be mostly due to buried epidermis they may also at times have their origin in the glands of the skin or the hair follicles. M. C. PINCOFFS.

**Heddaus: Treatment of Large Carbuncles by Circumcision** (Ueber die Behandlung grosser Karbunkeln durch Zirkumzision). *München med. Wchnschr.*, 1912, I, 2459. By Surg., Gynec. & Obst.

The case in question was a carbuncle in the neck of a diabetic. This had been previously treated by the house physician, first, with compresses and then by crucial incision, but the condition did not improve. When admitted to the clinic much bloody pus was emptying through the incision from an abscess which undermined the skin far to the right. The inflammatory infiltration reached to the sternocleidomastoid muscle forward and to the tabular surface of the occipital bone; the skin was bluish red and oedematous. A deep circular incision was made through all tissues down to the musculature, and on the skull down to the periosteum. Tincture of iodine was then applied and the operation wound tamponed with wet collargol gauze. The large median abscess was then opened and deep radial incisions made to allow the removal of the pus. The success was remarkable. The oedema disappeared, temperature became normal, and the patient had no pain. The wound was rinsed with  $H_2O_2$  solution and again dressed with collargol gauze. On the second day necrosed tissue had been cast off. Temperature then increased; intravenous collargol injections had no effect; respiration became forced, and on third day after operation coma set in, and exitus occurred in the afternoon. Post-mortem autopsy showed small miliary abscesses on the entire periphery of the lung, which undoubtedly within a few days would have caused death. Great masses of staphylococci were found in the tissue and vessels of the lungs. From the surgical stand-

point it seems impossible that the infection of the lung was caused by the operation, because of the immediate application of iodine and tamponage. The first case (reported in September, 1912) showed the good results of the treatment, and the second was on the way to do so. Early operation with the described method is advised in cases such as this, and is also advocated for anthrax carbuncle.

E. S. TALBOT, JR.

**Weber: Multiple Calcification in the Subcutaneous Tissue.** *Proc. Roy. Soc. M.*, 1912, vi, 14. By Surg., Gynec. & Obst.

This interesting case occurred in a German girl, aged 7, who presented, at the clinic, hard nodules in the subcutaneous tissue of the extremities and the portions of the trunk adjoining the extremities. The child had suffered from numerous contagious diseases and pyogenic infection and was in a severe state of malnutrition. Two of the softened nodules had ulcerated through and were found to contain calcium carbonate and calcium phosphate. Cultures remained sterile. Microscopic sections of the calcareous masses showed a matrix of subcutaneous connective tissue in which the lime salts were embedded. The etiology is very obscure.

This is a true case of calcinosis. These cases are very rare, and only a few have been reported. The danger lies in the ulceration and the resulting infection. C. G. GRULEE.

**Schüle: Treatment of Furunculosis** (Zur Behandlung der Furunkulose). *München. med. Wchnschr.*, 1912, I, 2458. By Surg., Gynec. & Obst.

A single furuncle can be cured in all cases if the center of it is cauterized deeply enough and early enough, i.e., within the first 48 hours. A wheal is formed on the margin of the infiltration with 1 per cent novocain solution, the center of which is then punctured and novocain injected into the subcutaneous tissue; the wound is then deeply cauterized and tamponed. The fully developed furuncle is not influenced by cauterization. Prophylactic treatment is epilation of the infected area, inunction with Credé's salve, washing with spiritus saponato calcinus or spiritus absolutus, followed for two weeks by inunctions of zinc salve. For carbuncles, cross-incision with the Paquelin cautery is advocated.

E. S. TALBOT, JR.

## MISCELLANEOUS

### CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSSES, ETC.

**Fraser: A Possible Test in the Differentiation Between Human and Bovine Types of the Tubercle Bacillus.** *Brit. M. J.*, 1912, Nov., 1432. By Surg., Gynec. & Obst.

The author states that by injecting an emulsion of the bacilli preferably into the knee joint of the

rabbit a ready differentiation between the human and bovine tubercle is at hand. If the human type is injected, the rabbit continues to put on weight or remains constant. No stiffness or joint pain ensues. If the joint is examined three or four months later, the picture of a chronic synovial tuberculous joint is presented. If the emulsion is of the bovine type the changes are rapid and acute. In ten days the

animal is crippled, and there is progressive and continuous loss of weight. Examination of the joint three or four weeks later shows acute synovial tuberculosis. Fraser presents a table of 15 applications of the test to substantiate his theory.

M. S. HENDERSON.

**Shattock: The Microscopic Structure of Urate Calculi.** *Proc. Roy. Soc. M.*, 1912, vi, 1.

By Surg., Gynec. & Obst.

The proportion of cases of urate calculi is much less than that of uric acid calculi. The article contains a detailed account of various urate calculi, together with microscopic photographs of the same. The nucleus of the urate calculi consists of a conglomeration of spherules held together by vesical mucus. The body consists of a regular growth of further spherules deposited on the nucleus and held together by vesical mucus. The urate calculi consist of fine crystals which have a rod-like or bacilli-form character. These crystals are disposed radially, the smaller spheres showing only a radial striation. In the larger ones there is a crust added.

When the organic calculus is dissolved in hydrochloric acid, a matrix is left in which is found some inorganic salts, consisting mainly of phosphate and carbonate of lime. In regard to the nature of the matrix it consists wholly or in part of mucin.

C. G. GRULEE.

**SERA, VACCINES, AND FERMENTS**

**Eversole and Lowman: The Use of Carl Spengler's "I. K." Serum in the Treatment of Tuberculous Joint Disease, with Report of Cases.**

*Am. J. Orth. Surg.*, 1912, x, 234.

By Surg., Gynec. & Obst.

The authors present a preliminary report on 19 cases of tuberculous joint disease treated with Spengler's "I. K." serum. Twelve had pulmonary as well as joint involvement, many had abscesses, extensive bone destruction or sinuses, and one had Pott's paraplegia. The time of treatment varied from three months to a year and a half. All cases but one, which died from extensive lung involvement, showed rapid and marked improvement, particularly in weight and general condition; and in cases with sinuses the rapid decrease in the discharge seemed especially marked.

The authors refer to improvements in technique since the report of a similar series of treatments by Porter and Quinn (*Am. Jour. Orth. Surg.*, Feb., 1912), but do not explain what the improvements are nor the details of technique used. Their conclusions, which correspond closely with those of other observers, are: Practically every case except Case 1 gained steadily, and general resistance seemed greatly raised.

Those with absorption from two foci seemed to become less and less toxic and gained just as steadily as others, although not so rapidly.

Sinuses discharged much less, and those that were painful became much less so after "I. K." treatment was instituted.

J. L. PORTER.

**Vaughan: Blood Changes Caused by the Hypodermic Administration of the Cancer Proteid.**

*J. Am. M. Ass.*, 1912, lix, 1764.

By Surg., Gynec. & Obst.

Vaughan used vaccines in over 200 cases of recurrent or inoperable malignant disease. This work was based on the belief that injection of any specific proteid within the human body would result in formation of specific ferments for the splitting up of each proteid. Cases with a marked decrease in polymorphonuclear and a corresponding increase in mononuclear leucocytes received benefit from the vaccines. In cases which have been without vaccine treatment from two to four years, the percentage of non-recurrence is ten.

Since vaccine treatment would benefit only a small percentage of cancer sufferers, an attempt was made to produce an active ferment for splitting up of malignant cells in bodies of animals. Sheep and rabbits were injected with cancer residue and cancer vaccine. The large mononuclears are invariably increased from 100 to 400 per cent within 24 to 48 hours.

To ascertain what bearing this had on the formation of a specific ferment, several rabbits were sensitized to cancer cell and varying percentages of cancer-cell emulsion were injected intravenously. Rabbits with a percentage above 30 of large mononuclears usually died within one to three hours. This is probably due to destruction of cancer cells and liberation of their toxic radicle by the specific ferment present in the blood serum; later a reaction between cancer cells and large mononuclear cells occurs.

Sheep and rabbits were injected with cancer proteid and their serum taken when the percentage of large mononuclear cells was at its height and injected into 12 cases of inoperable carcinoma. In all cases there seemed to be an improvement in the condition of the malignant growth, but the serum complications were marked in over 50 per cent of the cases.

To avoid serum complications the specific ferment was removed from the large mononuclears by solution. As small an amount as 1 cc. of this leucocyte extract injected directly into the tumor may cause sudden and severe symptoms.

L. G. DWAN.

**Lamar: Chemo-Immunological Studies on Localized Infections.** *J. Exp. Med.*, 1912, xvi, 581.

By Surg., Gynec. & Obst.

Lamar has shown in earlier papers that mixtures of immune antipneumococcic serum, sodium oleate, and boric acid have a highly beneficial action in cases of localized pneumococcic infections. During the search for an "optimum mixture" Lamar has attempted to apply this method of treatment to a localized infection which closely simulates pneumococcic infection in man. Pneumococcic meningitis in monkeys was found to resemble closely in pathological and clinical features the same disease in the human, and it is the work on these cases which is reported in this paper. As a control, 7 animals were

injected, by lumbar puncture, with 0.1 cc. of a diluted broth culture of a virulent pneumococcus. A rapidly fatal meningitis and bacteræmia was produced in each instance (15 hours to 4 days). Eleven experiments were made with immune anti-pneumococcic serum injected into the spinal canal. Each animal first received 0.1 cc. of broth culture of the same strain used in the control series. The experiments showed that immune serum has a distinct though slight retarding influence upon the infection. When administered within two hours after inoculation it prevented the growth of the organisms in two cases. When given later the first injection seemed to retard the development of the disease, but this influence was of short duration, and rapid development and death followed. Nineteen animals were treated under exactly the same conditions of inoculation with a mixture made up of 0.1 cc. of 1 per cent aqueous solution of Merck's or Kohlbaum's sodium oleate, 0.2 cc. immune anti-pneumococcic serum and 0.7 cc. of 5 per cent aqueous solution of boric acid. An injection of this mixture was usually made each day of the animal's life, or until the spinal fluid gave little or no growth of pneumococcus; 2 cc. were given at the first injection and as much thereafter as could be given without producing pressure effects, this rarely falling below 1 cc.

The time of beginning the treatment after inoculation varied from 4 to 48 hours. The average number of injections necessary was 5 or 6. Nine animals recovered and ten died. Three animals died of a "relapse," after apparent recovery. Three animals died very quickly after inoculation (22½, 31 and 33 hours), seeming to offer little or no resistance to the infection; one animal died, after 6½ days, of pneumonia; the meningitis was found at autopsy to be arrested.

These experiments show that the effect of the mixture of sodium oleate, antipneumococcic serum and boric acid is much greater than that of the immune serum alone. Lamar believes that the use of the mixture in human infections may prove of great value, since it has been shown that the number of strains of pneumococci is not large.

JAMES F. CHURCHILL.

## BLOOD

**Levison: The Treatment of Hæmorrhagic Conditions with Normal Human Blood Serum.**  
*Inter. M. J.*, 1912, XIX, 934.

By Surg., Gynec. & Obst.

Levison mentions fifteen or twenty diseases in which hæmorrhage is a symptom, but he limits his remarks to those diseases of childhood in which hæmorrhage dominates the picture — hæmorrhagica neonatorum, hæmophilia, Buhl's disease, and Winkel's disease. In none of these diseases has the pathology been clearly worked out; indeed, the very diseases themselves have not been accurately classified. It is probable that various types of bacterial

organisms may be the etiological factors, but this is not definitely proved.

It is essentially true that one of the principal factors in all these diseases is a disturbance of the chemistry of the blood, leading to instability in the coagulation mechanism. The chemistry of normal coagulation is not clearly understood. Levison discusses in detail the rôle of thrombin, prothrombin, kinase and calcium salts, and correlates the important facts from literature bearing on this subject, without, however, adding any new experimental data.

All efforts to check hæmorrhage by the use of calcium, gelatin, adrenalin, and styptics have proven unsatisfactory, and furthermore, the use of animal serum has not furnished desired results. In the use of animal sera, one runs all the risks that are inherent in the administration of an alien serum. Human serum, on the other hand, never produces toxic results and should invariably be used in all hæmorrhages of childhood. Levison advises that large quantities of serum should be employed and that the use of the serum should be continued until the hæmorrhage has ceased.

M. G. SEELIG.

## BLOOD AND LYMPH VESSELS

**Hesse: The Use of Blood-Vessel Sutures in the Resection of Aneurysms of Peripheral Vessels, in Traumatism of Vessels, in Varicosity and in Angiosclerotic Gangrene, Based on 58 Cases.** *Russk. Vrach.*, 1912, XI, 1708.

By Surg., Gynec. & Obst.

1. *Blood-vessel suturing of cases of aneurysms.* Case 1. Zeidler (consult *J. de Chir.*, 1911, VI, p. 46): arteriovenous aneurysms of the femoral vessels. Separation of the two vessels; separate suture of the two ends. Cure. Cases 2 and 3. Very large aneurysmal sacs. After ablation, the loss of substance of the artery was too great to allow a junction of the two ends. It was impossible to interpose a segment of the long saphenous vein because of its small caliber. The ends of the artery were ligated separately. Cure followed in both cases.

2. *Blood-vessel suture in cases of vascular lesions.* Hesse has found occasion to use suture in only one case of accidental wound, and in this case the anterior portion of the cubital artery, which was very large, had been severed. He remarks that ligation of the wounded artery would have been simpler than suturing in this instance. Four cases of suture of vessels injured in the course of operation are reported. The femoral artery and the femoral vein were each twice sutured with complete success.

3. *Blood-vessel sutures in case of varicosities.* Fifty-one cases are reported in which Delbet's operation was performed. There was one death; all the others recovered, with excellent functional results, 2½ years having intervened in some of the cases.

4. *Blood-vessel sutures in angiosclerotic gangrene.* In this case an old man showed beginning senile

gangrene in his left leg, accompanied by very severe pain. The pulse was not perceptible in the popliteal fossa and the foot was cold. The arteriovenous anastomosis was performed between the femoral artery and the long saphenous vein, but a small tear in the wall of the vein led to a hæmorrhage, and upon the application of suture an obliterating thrombus was formed in the vein at this point.

Hesse incised the vein and removed the thrombus, but it at once reformed. He then undertook to use the femoral vein for a new anastomosis. As in this subject two femoral veins were present, he was enabled to perform a terminolateral anastomosis with one of them; the vein at once began to pulsate and, as is usual in these cases, an immediate improvement was noted. The limb became warm again and the pains diminished. This improvement lasted for  $1\frac{1}{2}$  months, during which time the gangrenous portions became demarcated and were removed. Then the condition became worse and it proved necessary to amputate the limb. It was noted on operation that venous blood flowed from the veins and that no pulse was present in the femoral veins. The lumen of the artery was filled with atheromatous material. Hesse states that Wieting's operation is inefficacious, and that such improvement as is seen following it (lessening of pain and warmth of the limb) is due, not to the re-establishment of circulation, but to the stasis which follows the stoppage of the venous outflow.

M. C. PINCOFFS.

## POISONS

**Burnet: The Virulence of Bacilli Tuberculosis and the So-Called Attenuated Forms of Tuberculosis** (La virulence des bacilles tuberculeux et les tuberculoses dites atténuées). *Ann. d. l'Inst. Pasteur*, 1912, xxvi, Nov.

By Journal de Chirurgie,

There are attenuated forms of tuberculosis. This is proved by the exquisite susceptibility of primitive people, by the relative resistance of Europeans to tubercle bacilli, and by the fact that man may succeed in overcoming a benign infection which leaves him vaccinated. The author attempts to prove the existence of bacilli of attenuated virulence. Are the bacilli which cause local tuberculosis (joint, cutaneous, glandular, etc.) bacilli of attenuated virulence? No. Burnet has injected these bacilli in susceptible animals, and they have proved to be as virulent as those of sputum, and in some cases to possess even greater virulence. Are these bacilli of attenuated virulence of the bovine type? No. Notwithstanding certain facts published in foreign journals, in 35 cases of bone, joint, and cutaneous tuberculosis, and in 23 cases of glandular tuberculosis, he was not able to detect in a single instance the presence of bovine bacilli. In many cases we may seek the explanation either in the inoculated quantity of microbes, in the greater or less resistance offered by the soil, or in attenuations of as yet obscure cause of germ virulence. He admits that the

gravity of the tuberculous infection depends, not only on the quantity, but on the quality of the incorporated germs. He shows that inoculation of tuberculous material often remains negative, and still in these cases there is neither absence of bacilli nor presence of acid-resisting agents. These are, therefore, attenuated bacilli, either from the time of their penetration into the organism or from a process of cure in the organism injected.

He reports a case of a young man 19 years old who since childhood has had a torpid tuberculosis upon the external surface of the foot, leg, and knee. In inoculating guinea pigs and monkeys with some of the diseased tissue, he found that the microbes produced in these animals only absolutely benign lesions, which they survived a long while, differing in this respect from the rapid death of control animals inoculated with virulent bacilli.

There seems to exist a tuberculous subflora, the rôle of which in tuberculous disease is as yet undetermined. These facts explain the cases of spontaneous immunity to tuberculosis and confirm the possibility of artificial vaccination.

P. GRUET.

**Warfield: Bismuth Poisoning.** *Am. J. M. Sciences*, 1912, cxliv, 647.

By Surg., Gynec. & Obst.

After reporting and discussing the symptoms and the theories of bismuth poisoning as observed and promulgated by Kocher, Feder-Meyer, Mory, Dalché and others, some of whom carried out experiments with bismuth salts, the author reports a case of poisoning from injection of about two ounces of bismuth subnitrate into an iliopsoas abscess. The patient, a white girl of 9 years, was admitted to the hospital September 9, 1911, complaining of a sore mouth. Her surroundings were of a squalid nature: one of her parents had syphilis before the child was born, and in all probability the other parent was infected likewise; one sister, aged 7, had died of generalized tuberculosis. The patient had never been a robust child.

A diagnosis of tuberculosis of the spine was made. Treatment for one year on a Bedford frame followed, during which time an iliopsoas abscess developed. This was incised. In November, 1910, about two ounces of Beck's paste was injected into the resulting sinus, which promptly closed, no paste having been extruded. Within two weeks a black line appeared on the gums. This has persisted, fluctuating in intensity. In August, 1911, an ulcer appeared on the cheek, opposite the upper second molar. Later, ulceration occurred along the right side of the tongue. In the routine examination it was noted that the lymphatic glandular system was generally enlarged, especially the cervical glands. The breath was very fetid, the tongue coated, with many carious teeth in the lower jaw, the front teeth being rough on the cutting edges but not notched; on the gum margins of both jaws, inside and out, was a dark violet line  $1\frac{1}{2}$  cm. in depth, which did not reach quite to the free border. The line was

smooth and somewhat glistening. The teeth were not loosened and there was very little pyorrhœa alveolaris.<sup>1</sup> The tongue was heavily coated, and along its whole right edge was a bluish black discoloration about 2 cm. wide. Along the central line of this patch was a whitish opaque diphtheretic membrane; on the buccal surface were two discolored plaques, one near the angle of the mouth. A whitish necrotic membrane covered about half the surface of the ulcer.

An X-ray of the lumbar region showed an irregular shadow corresponding to the paste, which did not appear to be much encapsulated. The Naguchi reaction was negative on two occasions: R. B. C., 5,600,000; W. B. C., 14,600; H. B., 90 per cent. The leucocytosis was evidently due to an alveolar abscess. The urine, of 10.20 to 10.30 specific gravity, showed neither albumin nor casts and no bismuth.

The patient gradually improved, and on February 19, 1912, was discharged, the tongue being normal, slight discoloration at the seat of the ulcer, and the line on the gums still present.

From the cases reported, the author deduces rather a typical picture which differs from lead or mercury. He recognizes three stages—the first, benign, when the violet black line only is present; second, moderating severely, with stomatitis, more or less acute, followed by a chronic condition, with discoloration of the gums and tattooing of the buccal mucosa; third, a severe form characterized by a more intense stomatitis, the gum margins ulcerated, secondary infections supervening and general symptoms present. Characteristic of bismuth poisoning is the violet tinge to the line, and in the more severe forms the presence of a diphtheretic membrane. The plaques appear anywhere on the mucous membranes, preferably on the parts in contact with the teeth. A cessation of bismuth absorption brings about an immediate improvement. Albumin, casts, and bismuth may be found in the urine. The author concludes that the poisoning is due to the bismuth, and not to the nitrates or other salts, such as lead or mercury.

H. A. POTTS.

### SURGICAL THERAPEUTICS

**Schepelmann: Oil in Abdominal Surgery.** *Arch. f. klin. Chir.*, 1912, xxix, 4.

By Surg., Gynec. & Obst.

The author concludes from the results of his researches on animals with intraperitoneal injections of camphorated oil, olive oil, and oil in which bactericidal substances were incorporated (solimenthol 25 per cent), that the use of oil in abdominal surgery is not warranted in the human being until more work in this direction has been done to justify such therapy.

E. S. TALBOT, JR.

### Royster: Wright's Solution in Infected Wounds.

*Internat. J. Surg.*, 1912, xxv, 343.

By Surg., Gynec. & Obst.

The imperfect drainage of wounds by rubber tubes, gutta percha and cigarette drains led the author to try Wright's solution, or lotio sodii citratis. It has the following formula: Sodii citratis, 11 grains; sodii chloridi, 20 grains; aquæ, q. s. ad, 1 fluid ounce.

The sodium citrate dissolves the plasma or albuminous substance which is thrown out from the inflamed tissues, while the sodium chloride by its osmotic action keeps up a continuous flow of serum, which washes away the wound products. In other words, the sodium citrate prevents coagulation and the sodium chloride produces irritation.

The author has used the lotion in dense phlegmons, which have cleared up remarkably without the usual multiplex incisions. He recommends it in gunshot wounds, infected hands, arms and legs; also in empyema and cellulitis.

The manner of applying the solution is very simple. It is used cold as made up according to the formula and poured into a clean basin. Several layers of gauze are saturated in the solution and laid over the parts. A covering of oiled silk may or may not be employed; a thick dry dressing may be sufficient. The gauze next to the wound is to be kept moist for such a time as may be necessary. He has never seen any untoward irritation and has not heard patients complain of any pain from the application. He does not believe the solution should be continued beyond the point of cleansing the wound and getting rid of all the products of infection. In his experience the solution rather retards healing after its work is done, and it is wise to discontinue its use when the wound has ceased to discharge and when granulations begin to appear.

E. L. CORNELL.

**Lieber: Burns and Their Treatment** (Die Verbrennungen und ihre Behandlung). *Beitr. z. klin. Chir.*, 1912, lxxxi, Nov. By Surg., Gynec. & Obst.

Many theories have been advanced to explain the cause of death in burns. Of the older ones grave damage to the blood, destruction of the skin—an important organ for the excretion of poisons, embolic phenomena, and fat embolism may be mentioned. Newer theories attempt an explanation upon the basis of the formation of a toxic substance. The reflex theory of Sonnenburg and that of Laskewitsch, namely a reflex lowering of vascular tonus, great dilatation of the vessels, and resulting dissemination of heat leading to subnormal temperature, deal with phenomena which in reality are due to shock. Falk assumed disturbances in the mechanism of the circulation due to dilatation of the peripheral vessels, with resulting increased work for the heart and final paralysis. Paralysis of the heart as a sequence to excessive heat was assumed by others. Lesser and others emphasize the damage to the blood in the form of an acute functional oligocythæmia. The red

<sup>1</sup> The abstractor takes the liberty of calling attention to the frequent misuse of the words "pyorrhœa alveolaris"; this appellation belongs to phædonic pericementitis.

blood corpuscles become unfit as oxygen carriers. Klebs showed first that rabbits die when their ears are heated to 56 to 60° C. by immersing in hot water. If the ears are rendered bloodless before the procedure, much higher temperatures may be employed with immunity. Klebs believed this to be due to thrombo-embolic phenomena. These findings were not verified in man.

According to the intoxication theory the poison may be formed in the blood, in the skin, or may be the result of a change in metabolism indicated by increased toxicity of the urine. The rabbit ear experiments of Klebs can be explained by assuming the formation of a poison in the blood. Even the parabiosis experiments recently performed cannot rule out this possibility. In parabiotic animals intoxication of one also produces symptoms in the other. The animals were connected after the symptoms in the other. The animals were connected after the symptoms of intoxication had disappeared. No changes in the blood occurred in the sound animal. This merely proves that the toxic substance is not a blood-poison; but does not exclude the blood as a source of the poison. Dieterichs maintained that the damaged red blood corpuscles act as antigens in the individual's own blood, producing specific hæmolysins. This has been disproved by subsequent experimentation. Burkhard found that the spontaneous hæmolysis occurring in the blood after burns is a consequence of direct heat action upon the erythrocytes. Another group of investigators thought the skin to be the seat of toxin formation. When fatal burns were produced in animals and the burned portions of skin were at once removed, the animals survived. Control animals died. Parascnadolo arrived at the conclusion that a cytotoxin closely related to snake poison is produced in the organs of burned individuals. Weidenfeld thought to explain the relationship between the amount of skin destroyed and the prognosis upon this toxin theory. He found that this toxin is soluble in water. Hymanns reports a case which is equivalent to a parabiosis experiment. A primipara gave birth to a child immediately after suffering a severe burn. The child was asphyctic and remained comatose long after the cyanosis had disappeared, and while respiration and heart action were normal. The mother also was comatose during labor. She had no recollection of any pains, despite being a primipara. It is quite apropos to assume that the toxin produced by the burn caused the coma in mother and child. Others endeavored to find the poison by analysis of the products of metabolism. This was based upon the discovery of Reiss that the urine of burned persons is poisonous and causes the same symptoms as the burn itself. Pfeiffer showed that not only the urine of burned persons but also their serum is poisonous. The toxicity of these ascend in different curves. The urine reaches its greatest toxicity in 24 hours; from then on this rapidly decreases, while the toxicity of the serum gradually and constantly increases up to the time of death.

These numerous experiments and theories show one fact only with certainty, namely, that death following burns is due to an autointoxication. The nature of the poison has not been determined. Changes in the kidneys are most frequent — hyperæmia, parenchymatous degeneration, finally nephritis, with granular and blood casts. Heart and liver are also involved. If the toxin acts for a longer period of time ecchymosis in the mucous membrane of the gastro-intestinal tract and duodenal ulcers is observed. These changes occur in 20 per cent of the cases according to Birch-Hirschfeld. All these findings resemble much those seen in rapidly fatal cases of poisoning and in the infectious diseases. The nature of the changes is identical with those in the infectious diseases. Valentin found desquamation and necrosis of the cells in the thyroiditis, exactly as in scarlet fever, measles, and diphtheria.

*Symptoms and clinical course.* Subnormal temperature is a sign of shock, and does not occur any oftener in burns than in other grave injuries. Fever is a frequent symptom. The temperature shows a characteristic curve. Fever was present in 144 cases of 188 (76 per cent). The time of its appearance ranged as follows: First day after burn, 48 cases; second day after burn, 32 cases; third day after burn, 22 cases; fourth day after burn, 10 cases; fifth day after burn, 1 case; sixth day after burn, 2 cases.

The rise of temperature is due to the toxin and is not caused by infection. The temperature shows a curve which permits its distinction from fever due to infection. Infectious rises are of much longer duration. Toxic fevers are associated with symptoms which are absent in infections. The patients are apathetic, even somnolent; in grave cases singultus and vomiting are present. These symptoms disappear with the initial toxic fever. The prognosis is worse in children. Weidenfeld has shown that the body surface of the child is disproportionately large in comparison with its weight. If one third of the surface of an adult can produce enough poison after a burn to cause the death of the patient, one ninth of the surface of a child burned may produce the same effect. Death as a direct consequence of a burn occurs within the first six days. Later occurring fatalities are to be attributed to complications. In rare instances children die on the twelfth or fifteenth day while apparently convalescing very nicely. Autopsy gives no satisfactory explanation of the cause of death. These cases have been attributed to anaphylactic shock. However, the autopsy findings characteristic of anaphylactic shock were absent in these patients.

Lieber describes the treatment used in the service of Lotheissen during the years from 1902 to 1912. This latter is the following: for burns of the first degree, careful cleansing with sponges dipped in benzin, and subsequently application of sterile borated vaseline or talcum powder with sterile gauze. For burns of the second degree, the same cleansing; basal incision and evacuation of blebs, application

of novozodine powder and anæsthesin, sterile gauze. A bath is given every second day if the patient's condition permits. Removal of the dressings during the bath. The treatment of burns of the third degree is practically the same. General treatment consists of caffein, camphor and digalen subcutaneously, normal saline up to 4 litres daily, subcutaneously or per rectum. Large quantities of fluids are given by mouth. Morphin is absolutely avoided, as it interferes with the heart action. The continuous bath is likewise no longer employed. Some case histories of extensive second and third degree burns illustrate the efficacy of this treatment. The mortality has decreased under the new form of treatment.

E. C. RIEBEL.

### ELECTROLOGY

**Haudek: Radiological Demonstration of a Gastrocolic Fistula.** *Wien. med. Wchnschr.*, 1912, liii, 3104.  
By Surg., Gynec. & Obst.

The patient, a male 32 years of age, gave a history of long standing stomach trouble. There was strong evidence of malignancy, although a positive diagnosis had not been made. An X-ray picture after the ingestion of a bismuth meal showed that the jejunum was not normally filled, and the shadow which was obtained on the screen appeared to correspond to the transverse colon. The patient was then given another test meal. After six hours Haudek found that the stomach and the small intestine were empty, but that the colon was filled with bismuth as far as the sigmoid flexure of the rectum. A new radioscopic examination proved conclusively that there was an abnormal communication between the stomach and the transverse colon. This was shown by the presence of an abnormal shadow 1 cm. long and  $\frac{1}{2}$  cm. wide. Since the pyloric portion of the stomach did not fill, and the duodenum and small intestines were practically free from food, a cancer of the stomach associated with a secondary gastrocolic fistula was assumed, although clinically there were none of the classic signs of this fistula. The patient did not vomit fecal matter, nor was there fecal matter in the stomach; profuse diarrhoea was absent. An exploratory incision revealed the presence of a scirrhous carcinoma of the pylorus, which adhered to the transverse colon. The involvement was so extensive that removal was out of the question. A post-mortem operation revealed an abnormal communication between the stomach and the transverse colon.

In a work published in 1900, Zweig gathered 61 cases of gastrocolic fistula. In 35 of these there was cancer of the stomach; in 14, gastric ulcer; in 5, cancer of the colon; in 5 there was a localized peritonitis; once a tuberculous ulcer, and once the fistula was congenital. Haudek has observed two further cases of gastrocolic fistula. One of these, associated with carcinoma of the stomach, opened into the colon; the other, which had been operated

by von Eiselsberg in 1907, was associated with a secondary peptic ulcer.  
A. B. KANAVEL.

**Herxheimer: Cure of a Case of Sarcomatosis of the Skin by Thorium-X** (Heilung eines Falles von Hautsarkomatose durch Thorium-X). *München. med. Wchnschr.*, 1912, I, 2503.

By Surg., Gynec. & Obst.

In the clinic for diseases of the skin in Frankfurt a R., 25 patients were treated for psoriasis, dermatitis exfoliata, and carcinoma of the skin with up to seven injections of thorium-X, given at weekly intervals, without any accidents resulting. In the case reported in detail by the author, the diagnosis was multiple sarcoma of the skin in a man 58 years old. Injections of thorium-X in doses of 1000 electrostatic units were given once a week; after the first injection the condition was unchanged; after the second the smaller nodules on the head and extremities grew visibly smaller and the largest, especially on the thorax, showed a central softening. After seven injections the skin of the entire body, as well as the mucosa of the oral cavity and pharynx, were perfectly normal. There is no doubt that in this case the sarcomatosis was cured by thorium-X injections, given in small doses at long intervals under slow disappearing pigmentation. Blood examinations showed that lymphocytosis excited by the thorium-X played an important part in this cure. It remains yet to be seen whether the result will be permanent.

E. S. TALBOT, JR.

**Hertz: Common Fallacies in the X-ray Diagnosis of Disorders of the Alimentary Canal.** *Arch. Rönt. Ray*, 1912, xvii, Nov.

By Surg., Gynec. & Obst.

**Gastric stasis.** The presence of bismuth in the stomach four or more hours after the bismuth meal is indicative of stasis only when nothing else is taken up to the time of examination.

**Duodenal kinks.** Conditions described as such are invariably the result of posture or the accelerated evacuation of the stomach associated with such conditions as duodenal ulcer.

**Ileac kink.** This condition is often simulated by obtuse bends of the lower ileum upon different planes, and the usual temporary obstruction there due to the tonic contraction of the ileo-cæcal valve interpreted as stasis.

**Kinks at the hepatic and splenic flexures.** Wide forward and backward bend at these parts, pictured on a single plane, is responsible for error.

**Intestinal stasis.** Lack of previous cleansing may cause stoppage of bismuth by mechanical obstruction offered by fecal concretions.

**The bismuth meal.** Too much bismuth given may cause distortion by its own weight. Two ounces is sufficient.

The bismuth compound used may affect the rate of motility. The carbonate tends to neutralize the acidity of the stomach contents, and thus retards the time of its evacuation more than inert salts,

such as the oxyiodide of bismuth or barium sulphate. Psychic influences govern the movements of the gastro-intestinal tract. Palatable mixtures give more normal findings than distasteful ones.

ADOLPH HARTUNG.

**Hänisch: The Röntgen Examination of the Large Intestine.** *Arch. Rönt. Ray*, 1912, xvii, 208.  
By Surg., Gynec. & Obst.

The author deals especially with stenotic conditions of the large bowel caused by tumors in or adjacent to it, by kinks, adhesions, and twisting, and by nervous spasm. He advocates fluoroscopic examination with a bismuth enema, observing it both as it enters and as it is evacuated. When points of special interest are visible he supplements his examination with the radiogram. He considers duplicate similar findings absolutely essential for accurate conclusions.

Interference with the flow of the injected bismuth forms the basis of the value of this method in diagnosis. In the case of tumors, the defect is constant and definite, whereas spasms give variable findings. Adhesions usually cause a gradual narrowing of the

lumen extending over some distance. The presence of kinking or twisting of loops, causing obstruction to the flow, may be diagnosticated where position or manipulation markedly alter the apparent stenosis.

After citing a number of cases, in most of which his findings were verified by operation, the author reaches the conclusion that his method of examination aids materially in ascertaining pathologic conditions of the large intestine and, used in conjunction with the clinical symptoms and history, gives reliable information regarding certain obscure bowel conditions.

ADOLPH HARTUNG.

#### SURGICAL DIAGNOSIS

**Vogel: Phenolsulphophthalein in Diagnosis of Kidney Lesions.** *Berl. klin. Wchnschr.*, 1912, xxxvi, Nov.  
By Surg., Gynec. & Obst.

The author confirms the work done by Rountree and Geraghty in Dr. Young's clinic, Baltimore. He finds the test valuable, but it takes at least four hours for the excretion of the maximal sum of the substance (60 to 85 per cent), and 14 hours as total time.

BUCHSBAUM.

## GYNECOLOGY

### UTERUS

**Baldwin: The Cure of Prolapse of the Uterus and Bladder by Plastic Operation.** *N. Y. M. J.*, 1912, xcvi, 952. By Surg., Gynec. & Obst.

The author's operation is a modification of the one described by Emmet and is applicable to all degrees of prolapse, being best suited, however, to women beyond the child-bearing period. He has done it on a few before that time. The operation is done with the patient in the Sims position, using the Cleveland speculum. After curettage and any necessary work on the cervix, the uterus is held in normal position by suturing the anterior lip to the fenestra in the tip of the speculum. Three points are now selected on the anterior wall, one on each side of the cervix and one just below it. The lateral points are the important factors. They are well out under the bases of the broad ligaments, and some force is necessary to bring each point to the middle of the cervix. These points are then denuded of mucous membrane for about one half to three quarters of an inch and their lateral edges united, making a broad surface of denudation. Two silver wire sutures are now passed deeply under the denuded area — the author lays stress on passing the sutures deeply — and are twisted, making a firm bridge below the cervix, firmly holding it in the hollow of the sacrum. The cystocele is then attended to by denuding two crescentic strips down the antero-lateral vaginal walls and suturing with silver wire. A perineorrhaphy is then done of whatever type the perineum requires. Up to January, 1909, the author operated upon 56 women. These were investigated, 36 being heard from. Of these 36 there were only two failures. One of the failures was in a woman who bore two children subsequently. Subsequent operations have not been tabulated.

The advantages claimed by the author are that this operation restores as nearly as possible the size and shape of the vaginal canal, that it is free from operative mortality, is attended with very little suffering, and achieves a large percentage of symptomatic and anatomical cures. GORDON GIBSON.

**Goffe: An Operation for Extreme Cases of Procidencia with Rectocele and Cystocele, Based on Anatomical, Physiological, and Dynamic Principles; with Report of Cases.** *Med. Rec.*, 1912, lxxxii, Nov. By Surg., Gynec. & Obst.

A knowledge of the cause of procidentia with its accompanying complications is the first step in solving the problem of its relief. We now know that the support of the pelvic organs conforms to nature's general plan of holding organs in place, which is by suspension from above by means of ligaments.

The great force to be controlled is intra-abdominal pressure. This is done by two systems of reflecting and deflecting planes. One is represented by the uterus and its broad ligaments, and the other by the pelvic floor. These two planes receive, deflect, and distribute this force in such a way as to direct the resultant into the line of expulsion, i. e. the pelvic outlet, and at the same time preserve visceral support and equilibrium.

In cases of procidentia in which the uterus is retained, i. e. previous to menopause, the deflecting plane is maintained by shortening both the round and uterosacral ligaments, the uterus should not be fixed in position. By plicating the ligaments, their functions are retained and the deflection of intra-abdominal pressure secured. To relieve the cystocele, the bladder is dissected free from all its attachments except that of the peritoneum. It is then carried up and stitched to the anterior face of the uterus and broad ligaments in such a way as to take in all the slack in the base of the bladder and restore the normal fixation of the trigone. The rectocele is relieved by restoring the floor of the pelvis by the usual muscle operation. When the rectocele is extreme, the anterior wall of the rectum is laid bare previous to the restoration of the levator muscles and plicated with one or two running sutures of chromic catgut. In patients at or beyond the menopause the uterus is removed and the deflecting plane is restored by stitching together the broad ligaments across the pelvis, care being taken to secure in these stitches all the supporting ligaments of the uterus. In this way the ligaments continue to functionate and thus preserve the deflecting properties of this plane of tissue. Upon the anterior face of this plane the bladder is spread out and stitched as previously described.

Twenty-nine cases are reported in detail. Some of the cases were of seven years' standing, others of four and three, and the balance of over two years' standing. Twenty-four had been subjected to examination just previous to the reading of the paper. Among these cases are 11 patients between 50 and 60 years of age, 4 between 60 and 70, and one at the rare old age of 75 years at the time of operation. In not one of them had there been sufficient reaction following the operation to demand any departure from the regular routine of after treatment. Convalescence has been surprisingly smooth. In a single case has infection occurred. Catheterization as a rule is not continued beyond the second day. If prolonged, the patient is gotten out of bed and on the commode by the fifth day.

In estimating the indications and the value of this operation, the following points were considered:

(1) The permanency of results, (2) the age of the patient in reference to shock, (3) the character of the convalescence, and (4) the restoration of physiological functions. Of the 24 who presented themselves for examination, there was not one that showed the slightest tendency to recurrence, and all gave most favorable reports of improvement, not only in their local condition but in their general health.

In regard to the bladder, 3 who had had annoying incontinence previous to operation reported a cure; 5 reported a slight irritability of the bladder lasting from three to five months after the operation, but not present since. Dr. Osgood, the cystoscopist at the Woman's Hospital, has cystoscoped the bladder of all patients subjected to this operation both before and after operation. He reports complete restoration of normal condition in the interior of the bladder. Two of the patients examined at the office had passed through confinement two years after the operation. One had twins; both had normal labors, and in neither one was there the slightest lesion of any kind. All the different procedures in the operation had held perfectly.

**Vineberg: End Results with Various Operative Procedures for Procidentia and Extensive Cystoceles Prior and Subsequent to the Menopause.** *Am. J. Obst., N. Y.*, 1912, lxvi, Nov. By Surg., Gynec. & Obst.

This article is written with particular reference to the "vaginofixation" or "interposition" operation on the uterus. The author briefly reviews the history of vaginal operations in America for displacements of the uterus. The technique of the interposition operation is not described, but several points are emphasized.

"In extensive cystoceles it is essential, in order to obtain a good permanent result, to separate the bladder freely medially and laterally from the cervix and base of the broad ligaments. To accomplish this the 'bladder pillars' have to be severed between two ligatures. To merely separate the bladder in the median line, as advised by Watkins and others, invites a recurrence of the cystocele at the outset, for it leaves pockets of the prolapsed bladder at either side of the cervix, which in a short time increase in size, and form what might be called a double cystocele. The writer deems it important also, with a very few exceptions, to perform a high amputation of the cervix, for when this is not done the cervix acts like a wedge and a recurrence of the prolapse is very prone to occur."

Where the uterus is very large and thick, Vineberg prefers to do a subtotal excision of the uterus, "leaving as much of the lower segment of the uterus as possible, together with the cervix, and employing this residue of the uterus as a *pelotte* for the bladder by suturing it to the vaginal wall, as near to the urethral meatus as possible."

Of 45 cases observed for two years or more, "in not a single instance has there been a recurrence of the prolapse or of the cystocele. In 3 cases there was

a recurrence of the rectocele about  $1\frac{1}{2}$  inches above the posterior commissure, showing either a faulty technique in the posterior colporrhaphy, in that the denudation was not sufficiently wide at the upper part, or a too early absorption of the deep catgut sutures. Latterly the writer has employed chromicized catgut for these sutures."

The author next describes his vaginal operation during the child-bearing period, vaginal suturing of the round ligament, originally published in 1896. Seven cases thus operated upon have been traced. Results in all but two were excellent. A recurrence of the cystoectoceles took place in one and a slight protrusion of the vaginal wall in the other. One patient passed through subsequent pregnancy and spontaneous labor without a recurrence.

Vineberg has used a modification of Olshausen's method of suturing the round ligaments to the abdominal wall in his abdominal work for procidentia during the child-bearing period. The results have invariably been so good that he has been content to employ it for the past fifteen years to the exclusion of all other methods. It must be accompanied, of course, by suitable plastic repair of the vaginal walls, the technique corresponding to the modern one for hernia. Of 17 cases under observation for two years or longer, there have been 3 deliveries at term, one patient having two children and another having one. Pregnancies, labors, and puerperia were normal in every respect. In none of these 17 cases has there been a recurrence of the procidentia or of the cystocele.

CAREY CULBERTSON.

**Critchlow: Comparative Results of the Various Operations for Supporting the Retrodisplaced Uterus, and the Best Method.** *Chirurgical*, 1912, xxix, 193. By Surg., Gynec. & Obst.

The author briefly outlines development of surgical measures for this condition, presenting the claims for the Alexander, Baldy-Webster, the Gilliam and its several modifications, and notes the various procedures by the vaginal route.

His conclusions are that no one operation can be labeled "the best"; selection of method depends on individual conditions; he is strongly committed to the intra-abdominal route in preference to the Alexander or any of the vaginal methods; great emphasis is laid on the value of exploration of the whole abdomen, examining the appendix, gall-bladder tract, and stomach. Some cases fail of symptomatic cure by operation because of failure to note that the retroversion was only a phase of general abdominal ptosis, demanding nephropexy, colopexy, or gastropexy.

Of the various intra-abdominal methods for correcting retroversion the author prefers implanting the round ligaments in the abdominal wall after the method of Gilliam as modified by Crossen. Its advantages are: it is intra-abdominal; it uses the strong proximal portion of ligament; the resultant pull is forward rather than lateral, as in Alexander;

elevation and support are sure; no abnormal bands endanger the intestine as in ventral suspension; pregnancy may safely follow.

The greatest drawback of the Alexander operation is its extraperitoneal feature, which prevents exploration. It may be used if some reason exists which contraindicates abdominal section, provided complications can be excluded.

**Frankl: An Argument for the Promotion of Early Operation in Cancer of the Uterus** (Ein Vorschlag zur Forderung der Frühoperation bei Gebärmutterkrebs). *Wien. klin. Wchnschr.*, 1912, xxv, 1897. By Surg., Gynec. & Obst.

This is the report of cases from the Schauta clinic in Vienna from 1901 to 1912 inclusive. It includes 1007 cases, of which 498 were operable and 34 were beginning cases. The tables will probably demonstrate the results of this operation better than anything else would.

TABLE I

Year	Total number of cervical cancers observed	Operated according to Schauta	Operated according to Wertheim	Total number of beginning cervical cancers	Beginning cases, free from recurrence after 5 years	Beginning cases, deaths	Beginning cases, dead from other diseases or lost track of
1901-02	116	47	—	1	1	—	—
1902-03	95	29	—	4	3	1	—
1903-04	88	37	—	1	1	—	—
1904-05	96	49	—	3	1	—	2
1905-06	82	49	1	4	2	—	2
1906-07	87	47	6	1	—	—	1

TABLE II

1907-08	84	28	13	3	2 <sup>1</sup>	—	1
1908-09	94	50	4	3	2 <sup>2</sup>	—	1
1909-10	88	59	2	4	3 <sup>3</sup>	1	—
1910-11	80	—	—	6	—	—	—
1911-12	90	—	—	4	—	—	—

<sup>1</sup> Examination after 4 years

<sup>2</sup> Examination after 3 and 4 years

<sup>3</sup> Examination after 3 years

As a means of early diagnosing of this condition he advises the establishment of stations in every district throughout the Austrian Empire where the tissue from curettements can be examined, and he thinks in this way early cases of cancer can be diagnosed which would otherwise be overlooked.

C. G. GRULEE.

**Wilcox: The Undeveloped Anteflexed Uterus and the Sterile Woman.** *Chironian*, 1912, xxix, 183. By Surg., Gynec. & Obst.

The author showed that in the embryonic development of the tubes and ovaries the uterus was the last organ of the pelvis to be developed; that it was formed by fusion of the two tubes; that a partial transverse division of this tube produced the fundus and cervix, hence the tendency to a flail-like union between these two portions of the uterus.

The early development of the ovaries and the later development of the uterus make possible the undeveloped or infantile uterus with the presence of well-developed ovaries. The possessor, therefore, is not in any sense an asexual woman, but may be quite the contrary.

The majority of writers attribute an infantile uterus to an acute anteflexion, due to a relaxed state of the uterine supports and a consequent deficient blood supply to the fundus. The author's theory is that the whole trouble is a developmental defect at the point where uterus and cervix join, but the real agent which tends to fix this helpless uterus in the acute anteflexed position is not the relaxed round and broad ligaments, but rather a pair of rigid, undeveloped sacro-uterine ligaments, which, being inserted at the flail-like cervico-uterine junction, tends to lift the uterus much as one would lift a boy by the seat of his trousers. This makes it really impossible for the fundus to raise itself, and at the same time interferes materially with normal blood supply to that organ.

The heretofore recognized treatment has been cervical dilatation under ether, curettage, packing, stem-pessaries, massage, electricity, etc., all good and many times attended with success, but failing quite as often; and the failure is due not so much to a faulty method as to lack of perseverance.

The truth is, there is no "short cut" to a cure of sterility or dysmenorrhœa due to an undeveloped, anteflexed uterus. Patience and persistence of intelligent effort alone will conquer. The patient should be given to understand that it will require 6 to 18 months to cure her.

**Treatment.** First, dilate uterine canal under ether and ascertain condition of endometrium — if polypoid or fungoid, etc., curette, but only if such be present; ascertain if sacro-uterine ligaments are rigid — if so, massage and stretch them. Pack uterus canal with gauze tape, to remain 48 hours; then repack. Repeat every alternate day for four weeks; then see the patient twice a week, dilating as much as can be endured without ether each time for two months; then, as improvement follows, see her once a month for six months. Continue a year before giving up.

This treatment could be supplemented by intra-uterine galvanism; the massage should accompany these treatments until there is a material giving way of the rigid sacro-uterine ligaments.

In a large dispensary practice the author has followed this line of treatment with entire satisfaction to himself and his patients.

#### ADNEXAL AND PERIUTERINE CONDITIONS

**Wilson: Gelatinous Glandular Cysts of the Ovary, and the So-Called Pseudomyxoma of the Peritoneum.** *Proc. Roy. Soc. M.*, vi, 9. By Surg., Gynec. & Obst.

Up to 1911 the author had operated on 331 patients with tumor of the ovary, among which were 144 glandular pseudomucinous cysts, with

only 6 typical cases of pseudomyxoma of the peritoneum, or about 4 per cent. Gelatinous cysts of the ovary did not always give rise to pseudomyxoma of the peritoneum.

In addition to the cases already noted of the 144 pseudomucinous cysts, there were 5 unruptured firm gelatinous cysts. In one case, after removal of a right-sided cyst, in five months one developed in the left ovary.

Pseudomyxoma of the peritoneum occurs most frequently between the ages of 40 and 60. It is uncommon in single women and is more frequently found in married multiparæ. Menstruation is usually not affected. There is no way in these cases of making diagnosis of the exact nature of the condition.

The cyst under consideration is multilocular, filled with characteristic gelatinous material, transparent, homogeneous, and either colorless or faintly tinged with yellow or green. They are divided by a very delicate transparent connective tissue, thinner than the tissue proper and lined by columnar secreting epithelia. The Fallopian tube is generally normal and unaffected.

As to the gelatinous material, it is alkaline in reaction, swells up and gradually dissolves in normal saline solution and in weak potash, but is not soluble in acetic acid. In three cases it gave a positive test for pseudomucin. Toward the distal pole of the tumor the loculi became larger and the capsule thinner. The gelatinous substance has a tendency to be carried into the upper portion of the abdominal cavity, and is commonly found between the diaphragm and the upper surface of the liver, spleen, and stomach. The parietal peritoneum is thickened, opaque, and has lost its gloss. Occasionally parts of smaller transparent prominences, like boiled sago greens, are seen. Sometimes the endothelium of the peritoneum is intact, but more often it is lost; the filaments of this penetrate the gelatinous substance. In a certain number of cases true implantation of metastases occur. In one case there was found a metastasis in the lung.

The only method of treatment which affords any chance of success is surgical removal. This should be accompanied by copious flushing with normal salt solution, which loosens the jelly-like masses.

As to the outlook, it is grave. Tendency to recur is marked, even though it seems possible to remove the whole tumor. According to Straussman, of 33 patients operated on, 16 died within four weeks. In 5 cases reported by Wilson, one of them in which there were true metastases remained well for two years and then died of a psoas abscess. Of the other cases, 3 remained well for eight, seven and two years, while the fourth was operated upon only in November, 1911.

Following this exhaustive treatise on the subject is a very careful and minute analysis of each case.

C. G. GRULEE.

**Auvray: Spontaneous Torsion of the Normal Tube and Ovary** (De la torsion spontanée de la trompe et de l'ovaire normaux). *Arch. men. d'obstét. e. d. gyn.*, 1912, July. By Journal de Chirurgie.

In this paper the author considers only torsions of the normal adnexa. He reports one case, a patient 14½ years old. Menses were established one year earlier. She was suddenly seized with right-sided abdominal pain, vomiting, with a temperature of 38° C. A diagnosis of appendicitis was made. After being treated medically for three weeks the patient was operated upon, and the appendix was found normal. An abnormal bloody discharge from the region of the internal genitalia led to their examination. The tube and ovary were found twisted and were resected. Histologically, the examination showed no chorionic villi and no anatomical change with the exception of an hæmorrhagic infarct.

The normal adnexa external to the abdominal cavity can be twisted. The condition is often mistaken for a strangulated hernia of the internal genitalia. It is usually noticed in very young children, and in some cases with the first appearance of a hernia. The twist may be from right to left or from left to right. It is difficult to determine its cause. It seems to be due to an interference of the venous circulation caused by compression at the level of the neck of the hernial sac. Clinically, a painful tumor of varying volume is found. At times functional disturbances are present (vomiting).

The normal adnexa may be twisted in the abdomen in the absence of pregnancy. These torsions are rare. The patients, usually young, have never previously complained of genital disturbances. The ovary may be twisted alone, or the tube and ovary may be twisted, equally or unequally. At first there is a sudden pain, and if the lesion is right-sided it is usually diagnosed as appendicitis. Rectally, one feels a pelvic tumor, but the information obtained by rectal examination does not enable one to make a differential diagnosis. The cause is uncertain. Torsion of the normal adnexa may occur during gestation. The condition in some instances has been associated with hæmatocolpos, or with hæmatometra due to vaginal imperforation.

L. CHEVRIER.

**Curtis and Dick: Concerning the Function of the Corpus Luteum and Some Allied Problems.** *Surg., Gynec. & Obst.*, 1912, xv, 588.

By Surg., Gynec. & Obst.

The report consists of a résumé of the literature and the results of original work on animals. The question of the relation of the corpus luteum to the insertion and development of the ovum has been a disputed one. Fränkel maintains that the development of the foetus up to the end of the first half of pregnancy is dependent upon the corpus luteum. Mandl and others dispute this claim. The author's experiments bearing upon this question consist of the removal of both ovaries during the first two weeks of

pregnancy. This was followed in every case by absorption of the embryo. Removal of but one ovary usually resulted in normal development to term. If the continuation of pregnancy was made to depend upon an ovary transplanted into the abdominal wall before coitus, by the removal of the normally situated ovary, absorption of the embryo occurred. The results of the experiments indicate that the corpus luteum is necessary for the normal development of the foetus during the first half of pregnancy.

An attempt was made to produce an anticorpus-luteum serum by Beebe's nucleoproteid method. No evidence of immunization was obtained. Extracts of corpus luteum given hypodermically to animals from which the ovaries were removed in the first two weeks of pregnancy failed to maintain foetal development.

Experimental transplantation of ovaries failed to confirm the idea that successful homotransplantation is easily accomplished. Only two autotransplants out of 13 were successful, and only one homotransplant out of 21.

Careful observations on the weight and histological appearance of the adrenals in animals with ovaries removed failed to reveal any evidence in confirmation of the idea that the adrenals and ovaries mutually undergo compensatory changes when the function of the one or the other is below normal. Attempts to produce experimental rickets by transplantation of ovaries, as by others, failed.

**Davidson: The Transplantation of the Ovary in the Human Being, with a Record of Three Cases.** *Edinb. M. J.*, 1912, ix, 441.

By Surg., Gynec. & Obst.

The various phenomena, such as headaches, flushings and other nervous symptoms, characteristic of an early menopause brought about by removal of both ovaries on account of their diseased condition, can be treated only with much difficulty. Therefore, if transplantation of the ovaries is successful it should be the ideal method of treatment. The author cites three cases of transplantation of the ovary, — two of which were successful. After removal of the ovaries he immersed them in normal saline at blood heat. Then, after sewing the peritoneum, he embedded slices of the more healthy portions of the ovary in a slit in the rectus muscle. He sewed up the slit in the rectus with catgut. About the time of the patient's menstrual period there was a stiffness in the rectus muscle over the point of implantation. Bond, in a series of cases, showed that after one ovary was removed the other did not hypertrophy unless stimulated by pregnancy or sexual intercourse.

Following this line of reasoning, an ovarian transplantation should be more successful in a married woman. Further, the implantation should be near the pelvic blood-vessels to receive the benefit of the pelvic congestion. J. E. LACKNER.

**Lawson: Aneurysm of the Uterine Artery.** *Am. J. Obst.*, N. Y., 1912, lxvi, Nov.

By Surg., Gynec. & Obst.

After reviewing the literature of seven previously reported cases of aneurysm of the uterine artery, the author reports his own case. The patient was a white woman 36 years of age, in her fourteenth pregnancy in fifteen years. She aborted in the fourth month, and ten weeks later was operated on by Dr. Bovée. A trachelorrhaphy was performed, during which operation there was a brisk arterial hæmorrhage on the left side of the wound. Recovery was uneventful. Three months later she again became pregnant, and enjoyed good health until her labor in March, 1910. After weak, infrequent pains she precipitated suddenly with a rather profuse hæmorrhage. The placenta was expelled spontaneously. For three days she appeared to be normal, but then began to complain of pain in the pelvis and left thigh. There was a slight chill, temperature 102, pulse 104. On the fourth day a sudden hæmorrhage occurred while the nurse was present, estimated at about 500 cc.; temperature 103, pulse 120. A second hæmorrhage came on a few hours later; she was tamponed vaginally and taken to the hospital. Here the tampon was expelled and followed by a violent hæmorrhage. The uterus and vagina were promptly packed, and patient was comfortable next day, temperature ranging from 99 to 100 and pulse from 110 to 130. At nine o'clock on the following morning hæmorrhage became profuse; repacking and stimulation were futile, death coming a few minutes later.

Upon autopsy a blood clot projected from the left side of the uterus about one inch above the external os, and a small fibroid was found on the anterior uterine wall. Upon removal of the uterus and its appendages, a sac 3 cm. in length by 2 cm. in width was found continuous with the left uterine artery and communicating with the uterine cavity by an opening 2 cm. by 1 cm. The sac was smooth and firm and contained a fresh blood clot. Section of this sac showed a dense fibrous tissue but no trace of an arterial coat. It was evidently a false aneurysm, resulting directly from injury to the uterine artery at the time of the operation for repair of the cervix one year previously. The rupture probably occurred on the fourth day after delivery.

CAREY CULBERTSON.

## VAGINA

**Vallois and Delmas: Kraurosis of the Vulva** (*Kraurosis Vulvæ*). *La Gynéc.*, 1912, xvi, 533.

By Journal de Chirurgie.

In a woman 28 years of age there was a total absence of the labia minora, all of the vestibular mucosa having the appearance of scar tissue. There was no apparent clitoris. In the bottom of an irregular funnel could be seen the very small inferior vaginal orifice. The etiologic factors were not definite. Syphilis or castration could not be invoked.

The case was not a post-operative kraurosis nor a red inflammatory kraurosis, but rather a simple white kraurosis. Perhaps a relation existed between the affection and the poor general and vascular development of this patient. The arteries were small and the sphygmomanometric pressure was 12.

An interesting feature of the case was that, though sexual act was incomplete and exceedingly painful, the patient became pregnant. As to the course to follow at the time of labor, it was decided to deliver through the natural channels after bilateral liberating incisions of the vulva. The perineal tears did not exceed the limits of the prophylactic incisions. The incisions were sutured with catgut in such a way as to permanently enlarge the vulvar orifice.

L. CHEVRIER.

**Hofbauer: Plastic Substitute for Vagina** (Ueber plastischen Ersatz der Vagina). *München. med. Wchnschr.*, 1912, I, 2506. By Surg., Gynec. & Obst.

The method of Häberlin and Baldwin, with certain modifications, is advanced for the formation of an artificial vagina. A movable loop of the small intestines of the colon is resected and left connected with its mesentery; anastomosis of the bowel is then done; the resected piece is displaced downwards and its upper end is closed, the lower end being sutured to the vulva; or a double loop is formed with the resected piece of the bowel, the lower top of it opened and fastened to the outer skin.

**Taussig: Surgery of the Female Urethra.** *J. Mo. St. M. Ass.*, 1912, ix, Nov.

By Surg., Gynec. & Obst.

The author considers under this title three special topics: (1) surgery of chronic skenitis, (2) treatment of urethral cancer, and (3) relief and cure of urinary incontinence.

Chronic skenitis often results in retention cysts or abscesses that require incision, and sometimes extirpation. In cases of beginning retention of pus or mucus in these ducts they may be incised with a delicate probe-pointed scissors. To expose the openings of the ducts the writer uses the ordinary Outerbridge intrauterine pessary.

Cancer of the urethra is rarely curable. Taussig reports four cases of primary cancer of the urethra, only one of which remained free from recurrence. In the technique of his operation for this condition he begins by an extensive resection of the tributary inguinal and hypogastric lymph nodes with their surrounding lymph channels on either side; then a wide resection of the tissues around the urethra is made, including therein the crura of the clitoris and the entire urethra. After making an artificial vesicovaginal fistula in the base of the bladder for

drainage purposes, a new urethra is built up as well as possible from the muscular tissue left at the neck of the bladder.

The incontinence of urine resulting from such extensive resection of the urethra, from severe tears at childbirth, or from the destruction following a tertiary syphilitic ulceration, is dealt with in conclusion. Of these three classes, the incontinence resulting from tears gives the best results. Occasionally, where operation is contraindicated, relief can be obtained in these cases by wearing a vaginal pessary that presses against the urethra. Where plastic work is necessary the writer prefers not to open the urethral canal but to build up the tissues around it for support. The cases where an entire new urethra has to be built up in patients of advanced age yield a large percentage of failure or only partial success. Special emphasis is laid upon a high suture of the levator ani muscle wherever there has been incontinence, as the levator ani has a not inconsiderable influence upon the control of urination.

#### MISCELLANEOUS

**Kehrer: Surgery of Sterility** (Chirurgie der Sterilität). *München. med. Wchnschr.*, 1912, I, 2501.

By Surg., Gynec. & Obst.

The important forms of sterility in the male and female, the absence of germinal cells, menorrhœa and azoöpermia, may be rationally treated by the transplantation of sound ovaries or testicles. Ovarian tumors causing retention of germinal cells may be treated by partial oöphorectomy with conservation of sound of the stoma and tubes. If massage has no effect in obstructions to the entrance of the ovum into the infundibulum, tubostomy is the only help that can be instituted.

Occlusion of the os uteri is doubtless an obstacle to fecundation; what degree of narrowness, however, causes sterility cannot be decided. Results may be obtained in stenosis laminaria by sufficiently large incisions. For leucorrhœa with much secretion or a tough cervical mucous plug, the introduction of a uterine cannula (a cone-shaped ebonite tube) is the rational treatment. When the sperm is prevented from entering the os uteri by ejaculatio præcox, stenosis of the vagina, vaginismus, hypo- and epispadias or masculine hermaphroditism, either the coitus specularis or coitus condomatosus should be used. Success with the coitus specularis was effected in one case where the husband was instructed in the use of a tubular speculum, resulting in the birth of two children. In constitutional diseases the practitioner should rather advise anticonceptional remedies than to try to repair the cause of sterility.

E. S. TALBOT, JR.

# OBSTETRICS

## PREGNANCY AND ITS COMPLICATIONS

### Green-Armytage: Elephantiasis of the Vulva.

*J. Obst. & Gynec. Brit. Emp.*, 1912, xxii, 270.

By Surg., Gynec. & Obst.

Green-Armytage reports from Calcutta the case of an 18-year-old primipara, a Bengalese woman, who had been in labor for 14 hours. Each labium was occupied by an enormous, hard, elephantoid, warty growth, and projecting from the region of the clitoris and vestibule was a third mass, bifid and granulomatous. The tumors had so constricted the vaginal introitus that digital examination was well-nigh impossible. The cervix was nearly fully dilated, the membranes were ruptured, and the foetal head was high; temperature 100.4°, pulse 100.

Abdominal Cæsarean section was performed, followed by total hysterectomy. On the third day, the central vaginal growth began to appear gangrenous and was amputated. Aside from a colon bacillus cystitis, recovery was uneventful. The child survived. Histologically the tumor showed the typical fibrous stroma, with the large dilated lymph spaces of elephantiasis.

CAREY CULBERTSON.

### Green-Armytage: Post-Mortem Cæsarean Section.

*J. Obst. & Gynec. Brit. Emp.*, 1912, xxii, 272.

By Surg., Gynec. & Obst.

The author reports the case of a Bengalese primipara, aged 20, who was admitted at term into the Eden Hospital, Calcutta, in a state of coma. For ten days she had complained of giddiness, backache, dysuria, and constipation. She appeared œdematous, and the urine showed albumin and casts. The next morning she was reported dying. On the way to the operating room respirations ceased, and 7½ minutes later the heart could no longer be heard. Abdominal section was performed on the stretcher, and a healthy child removed. The child did well and was alive three months later.

CAREY CULBERTSON.

### Edling: Radiographic Diagnosis of Extrauterine Pregnancy.

*Zentralbl. f. Gynäk.*, 1912, xxxvi, 1559.

By Surg., Gynec. & Obst.

Zurhelle believes that the importance of radio-diagnosis of extrauterine pregnancy has been somewhat exaggerated. It is evident that this method of diagnosis is of value only in those cases where pregnancy is far advanced, since otherwise the foetus would not throw a shadow clear enough for diagnosis.

Zurhelle has determined the precise seat of extra-

uterine pregnancy by inserting a metallic sound into the uterus, and thus demonstrating by means of the negative that the uterus was pushed to one side of the pelvis, and consequently that the foetus must lie to the opposite side. However, in those cases where the precise location of the foetus has not been determined, it is of course impossible to introduce a sound into the uterine cavity except at the risk of provoking an abortion should the pregnancy be normal; and further, if the uterus is found in front of or behind the foetal cyst and the radiograph be taken from the front or from behind, the shadow of the intrauterine sound would coincide with the shadow thrown by the skeleton of the foetus, so that any conclusions drawn from the picture would be misleading.

In conclusion, the author states that radiodiagnosis of extrauterine pregnancy which has reached a stage of development sufficient to throw an X-ray shadow has become very rare, as such cases are diagnosed early by the well-developed symptom-complex which they produce in the mother, and are operated.

E. S. TALBOT, JR.

### Davis: Thyroid Disease Complicating Pregnancy and Parturition.

*Bull. Lying-In Hosp.*, 1912, viii, 176.

By Surg., Gynec. & Obst.

Writing from a purely clinical point of view, Davis first offers a fairly complete review of the literature, and reports four cases from his own experience. In concluding, he summarizes as follows:

"In my experience, in examining all cases of pregnancy the condition of the thyroid gland should receive attention. If this be manifestly enlarged or altered the patient's nitrogenous metabolism should be closely watched, and if evidences of lack of thyroid secretion be found, the active principle of the glands in some available form should be administered. I have seen the best results by small doses, one grain three times a day, continued for from four to seven months.

"Our most reliable methods for ascertaining the patient's condition are nitrogen partition of the urine and the clinical study of the condition of the circulation. Unfortunately, pulse tension varies so greatly, sometimes under the excitement of examination, that it is not as constant and reliable a factor in diagnosis as we have hoped and wished. The nitrogen partition, in our experience, is much more reliable.

"If there is a history of enlargement in the thyroid during labor, with the development of unfavorable mechanism and loss of the child through birth pressure, elective Cæsarean section before labor should be selected.

"No case should be considered as convalescent, or receiving adequate attention, in which the patient after recovery from parturition does not seek surgical advice and treatment to permanently remedy the thyroid condition.

"The induction of labor in these cases is seldom indicated, as it is too slow and uncertain. The pressure of elastic bags increases the mother's nervous disturbance, and delivery of the child through a partially dilated birth canal exposes to additional risk.

"In cases where degeneration of the thyroid gland does not seem to be present but an increased secretion of thyroid material is formed, absolute rest and milk diet, sedatives, and the application of ice over the gland should be immediately employed with the hope of improvement until the child can become viable. As reported cases show, it is sometimes possible to check the thyroid activity by this means and to bring the patient to a safe and spontaneous termination of pregnancy.

CAREY CULBERTSON.

**O'Connor: Pyelonephritis of Pregnancy and the Puerperium.** *Boston M. & S. J.*, 1912, clxvii, 652.  
By Surg., Gynec. & Obst.

O'Connor reports a series of 29 cases, and from his study draws the following conclusions:

1. Infection of the pelvis of the kidney invariably involves the parenchyma.
2. Owing to its anatomical relations, the right kidney is more vulnerable.
3. The disease is much more frequent than supposed; the writer estimates that it occurs once in every 3000 cases.
4. Malnutrition, constipation, and tonicity of abdominal muscles (holding the pregnant uterus against ureter), are predisposing factors; tendency to renal abnormalities on the right, dextrotorsion of the uterus and predominance of positions in the right oblique diameter favor the infection of the right kidney.
5. Infection by the colon bacillus is the most common type, direct transmission through the intestinal walls being the probable mode of entrance (the ascending colon overlaps the right kidney and is very close to it).
6. The pathological picture shows the pelvis and ureter dilated with pus, and miliary abscesses in and beneath the cortex.
7. The cardinal symptoms are smarting micturition, chills, fever, nausea and vomiting, pain in the loin, and elevation of pulse. The urine is turbid, purulent, and albuminous.
8. Tenderness in region of kidney is always present. Enlargement of the organ can be demonstrated in about one fifth of the cases.
9. Abortion and surgical kidney are the most common complications.
10. The diagnosis can generally be made on physical signs and urinalysis, the differentiation from appendicitis being the greatest difficulty.

11. Prognosis is usually good for the mother and less favorable for the child.

12. Treatment by rest, sedation, catharsis and urinary antiseptics has met with success. The use of vaccines and pelvic lavage, if of any real value at all, entails dangerous delays and, being extremely technical, is beyond the scope of the rank and file of the profession. Early operation in cases that assume a surgical aspect is to be recommended.

**Tuszkái: Heart Disease in Pregnancy.** *Am. J. Obst.*, N. Y., 1912, lxvi, Nov. By Surg., Gynec. & Obst.

The fact that individual observers hold such different opinions makes it desirable to clear up this question as far as possible. Tuszkái's article is a study of the literature and of 16 cases of his own, in only 8 of which are the notes of a reliable character. Cases of pregnancy complicated by heart disease are divided into three main groups: (1) Those cases in which there has been recognized heart disease for some time before pregnancy occurs; (2) those cases in which a latent heart lesion is made manifest through pregnancy; (3) those cases in which pregnancy causes cardiac trouble of a fundamental nature, and permanent arterial disorders ensue as a result.

The author's conclusions are summarized as follows:

1. The pulse in pregnant women differs from that of a normal individual in that it loses its normal variability, not only in the second half of pregnancy but sometimes at the outset.
2. The cessation of variability is most probably the sign of normal hypertrophy of heart of a gestational character.
3. The prognosis in cases of pregnancy complicated by heart disease, based on the literature of the subject and the author's experience, may be considered as follows: (a) In cases in which heart trouble was present before pregnancy the diagnosis is simple, for we meet with marked heart lesions in the early stages of pregnancy. The prognosis in these cases is usually unfavorable. Variability of the pulse disappears for a very short time, to reappear again in an increased degree combined with symptoms of dilatation of heart and want of compensation. (b) To the second group belong cases in which the heart affection, hitherto latent as a chance factor, is brought into prominence by the pregnancy. Into this category fall also cases of angiosclerosis, or those with hereditary tendency, and also those cases aggravated before labor by some serious disorder of an infectious nature, as influenza, typhus or gonorrhœa, or some general ailment, such as tuberculosis, syphilis, or rheumatism. Diagnosis will present no difficulty if we carefully investigate the causes referred to, and we shall find that the heart trouble develops gradually and attains proportions consistent with the degree of the general disease and the occasional factor present. Prognosis may therefore be quite favorable in some instances in this group.

CAREY CULBERTSON.

**Williamson: A Clinical Lecture on the Significance and Treatment of Sugar in the Urine During Pregnancy.** *Clinical J.*, 1912, xli, 97.

By Surg., Gynec. & Obst.

If sugar is found in the urine of a pregnant woman by Fehling's test, it should be determined whether it is glucose or lactose. Glucose is fermented by yeast; lactose is not. A trace of lactose is common during the latter weeks of pregnancy, and indicates premature mammary activity but has no further clinical significance. After delivery, whenever the breasts become engorged lactose is present in the urine; when the distention of the breasts is relieved the lactose disappears. If glucose is present in the urine, one must determine to which one of the three groups the case belongs — alimentary glycosuria, transient diabetes, or true diabetes. Alimentary glycosuria can be eliminated if a carbohydrate free diet causes urine to become sugar free. Transient diabetes can only be diagnosed positively by the disappearance of the sugar in the urine after delivery. However, if, despite a strict diet, sugar is present in the urine in the early months of pregnancy, if acetous and diacetic acid also are present, if thirst, hunger, and prurites are not relieved by dieting, one can make a probable diagnosis of true diabetes. The transitory diabetes is due to a change in the pituitary body.

True diabetes is a very common cause of miscarriages and of the death of the child during the last few days of pregnancy. Diabetic pregnancies are characterized by hydramnios, presence of glucose in amniotic fluid, and excessive development of the child. Diabetes does not cause sterility. Following delivery, there is a very severe acidosis, due to elimination of waste products by increased muscular effort of uterine and abdominal muscles. This acidosis usually terminates in coma and death.

The prognosis is extremely grave as to both mother and child in true diabetes — 25 per cent of the cases die within 24 hours after delivery; 25 per cent more die within two years.

If despite a rigorous diet, glucose persists at 2 to 3 per cent, acetous and diacetic acid remain in the urine, thirst, hunger, and prurites continue — terminate pregnancy. After delivery give intravenous injections of sodium acetate, 1 dr. to a pint of normal saline, to counteract the acidosis.

**Smith: Icterus Gravis Simulating Phosphorus Poisoning; Report of a Case with Post-Mortem Findings.** *J. Mo. St. M. Ass.*, 1912, ix, 133.

By Surg., Gynec. & Obst.

Mrs. H. M., female, aged 25 years, five months pregnant; ill one week, starting December 8, 1907, with chills, fever, persistent vomiting, and delirium. On entrance into our service at the Mullanphy Hospital, St. Louis, December 16 at 2:30 a. m., pulse was 145, temp. 102°, and icterus intense; vomiting of blood once; unconsciousness and death on December 17 at 8:30 p. m. No phosphorescence about mouth, vomit, feces or urine. Physical examination negative, except 0.2 per cent of albumin in urine,

with fat droplets in epithelial cells. No leucin or tyrosin. Post-mortem 17 hours after death showed liver of normal size and weight, viz. 3 lbs. Necrosis of liver parenchyma so extensive, with some fatty degeneration, that acini were hardly distinguishable. Chemical examination of sections from liver and kidney showed no phosphorus by distillation or with ammonium molybdate test.

**Diagnosis.** Phosphorus poisoning suggested (1) because of fulminating symptoms and, (2) because of pregnancy, phosphorus being frequently taken to induce abortion, and especially in Germany, where patient hailed from. According to Witthaus and Beck, out of 294 cases of suicide by phosphorus, 177 were in Germany and 172 were women, among whom many had taken the poison to produce abortion. Acute yellow atrophy, on the other hand, frequently complicates pregnancy and the puerperal state; but in acute yellow atrophy the liver should be reduced in size and weight. In phosphorus poisoning there should be phosphorescence about mouth, vomit, feces or urine, and phosphorus should be present chemically in the tissues of such organs as the liver or kidneys. Diagnosis therefore must be acute parenchymatous degeneration of the liver, the case being not of sufficiently long duration for atrophy to develop. Acute parenchymatous degeneration or necrosis of the liver, therefore, would appear to be a better term for the condition than acute yellow atrophy.

**Lichtenstein: The Expectant Treatment of Eclampsia** (Die abwartende Eklampsiebehandlung). *Arch. f. Gynäk.*, 1912, xcvi, 416.

By Surg., Gynec. & Obst.

Lichtenstein gives the histories of his 45 cases and statistics of 193 cases from the literature of eclampsia treated expectantly. He recommends a combination of venesection and Stroganoff's method as the treatment for eclampsia. This has the advantage that delivery can be treated conservatively and that it is spontaneous in many cases. If possible the venesection is done primarily up to 500 cc. or else after the delivery, without awaiting further attacks. No damage has ever resulted from this treatment. The venesection lessens the blood pressure and partly removes the poison. The number of attacks was reduced per capita to one half and one third of the attacks of cases treated with active therapy. The attacks stopped in 60 per cent of the cases after the treatment: 35.56 per cent of all cases were intercurrent, and the venesection played a considerable part in the improvement of the eclamptic symptoms; 41 to 55 per cent of all cases proved to be uninfluenced by the delivery as far as attacks were concerned. The foetal mortality is less with the proposed treatment. The maternal mortality was 13.45 per cent in the collected cases and 11.11 per cent in his own material. Later statistics compiled by the author, containing 329 cases, show still better results. His clinical experiences speak strongly against the ovogenous and placental theory of eclampsia.

E. S. TALBOT, JR.

**Harrar: The Mammary Glands and Eclampsia; Report of a Case Treated with Oxygen Infiltration of the Breasts.** *Bull. Lying-In Hosp.*, 1912, viii, 219.  
By Surg., Gynec. & Obst.

The author points out the various attempts that have been made to connect perversions in the secretion of the mammary gland with the origin of eclampsia. Babies not infrequently are taken ill and die shortly after the first full breast feeding from an eclamptic mother. Working along the lines of comparative pathology, veterinarian investigators have suggested the use of oxygen infiltration of the breasts in eclampsia, similar to the successful treatment of parturient paresis in the cow. Foreign enthusiasts have even amputated healthy breasts of eclamptics in the treatment of the condition. The author proposes that the toxins in the milk or colostrum in eclampsia are rather the excretions of the disease than that the secreting breast is the origin of these toxins. It is more probable that the toxins or destroyed tissue poisons are distributed not only in the blood serum and the urine, but also in the breast secretion, and that the oxygen distention of the submammary cellular tissue merely aids by isolating a concentrated portion of the total amount. He then reports a case of eclampsia successfully treated by this procedure. The patient's colostrum was also expressed after delivery and injected into guinea pigs, which, however, when killed later, exhibited no distinctive pathologic lesions.

**Davis: Modern Methods in Cæsarean Section.** *Bull. Lying-In Hosp.*, 1912, viii, 225.  
By Surg., Gynec. & Obst.

The author describes in detail the technique of his operative procedure, and presents statistics of 134 personal cases. The main points in the operation include a high median incision,  $3\frac{1}{2}$  inches in length, from the umbilicus upwards. The intestines are held back by wet gauze pads, and the sides of the abdomen pressed against the uterus by an assistant. The uterus is opened in the midline. The hand is swept around the interior, loosening up the membranes, after which the latter are perforated and the fœtus is extracted by the breech. The wound in the uterus is closed with two layers of stitches. The first row, of No. 2 chromic catgut, is passed through and within one eighth of an inch of the cut edges of the peritoneal covering of the uterus, down through the muscle, and out in reverse order on the opposite side, avoiding the mucosa. After being tied this row of stitches is covered by a continuous suture of No. 1 chromic gut, by means of which the serous coat is turned in and the first layer of stitches is completely covered. The uterus then is unimpeded in its subsequent descent and the adhesions between the same and the abdominal wound are avoided. The abdomen is sutured in three layers and covered with an ordinary laparotomy dressing. Davis believes that by this method a great deal of shock is avoided, and likewise the danger of a subsequent hernia.

Out of his series of 134 cases, 17 mothers died, in which the causes of death were as follows: Septic infection (only two of these were wholly under the care of the operator; eight had outside examinations or attempts at delivery), 10 cases; acute dilatation of the stomach, anæsthesia, 1; shock and slow, persistent hæmorrhage (third Cæsarean), 1; pneumonia, 1; eclampsia, 4. The indications for the operation were as follows: Contracted pelvis in 100 cases; tonic contraction of the uterus and dry labor, 4; prolapsed cord and undilated cervix, 2; after ventral suspension, 4; placenta prævia, 3; pneumonia (patient moribund), 1; accidental hæmorrhage (mother survived; child still-born), 1; new growths, 6. The repeated Cæsarean was done in the same patient in 21 instances.

**Schaefer: Abdominal Cæsarean Section** (Ueber abdominale Kaiserschnitte). *Ztschr. f. Geburtsh. u. Gynäk.*, 1912, lxxii, 253. By Surg., Gynec. & Obst.

The author advocates a special method of abdominal Cæsarean section in which the disadvantages of the classical Cæsarean section are avoided, such as the flowing of blood and liquor amnii into the abdominal cavity, post-operative hernia, pressure on the intestines, cooling of the uterus, trouble in suturing the uterine wound, and great loss of blood. The method is easier than the extraperitoneal section; the wounds are smooth and the incisions simple. The procedure is as follows: A longitudinal incision is made in the median line just above the symphysis, through the skin, fat, fascia, and peritoneum. The cervix is incised longitudinally in the median line just above the fold which is low under the symphysis when the bladder is empty. If the median line is strictly adhered to there is little hæmorrhage. A narrow speculum is placed in the upper angle of the uterine wound and pulled into the upper angle of the abdominal wound, so that both lie close together, thus avoiding the spilling of amniotic fluid and blood into the abdominal cavity. In head presentations the child is extracted with straight forceps; otherwise it is turned and delivered by the feet. One to two cc. secacornin (Roche) are then injected intramuscularly. After some minutes the placenta and membranes are delivered. The cervical wall and peritoneum are closed with continuous catgut sutures. The abdominal wound is closed with four continuous catgut sutures and the skin with Michel's clamps. No cases were drained. All the children were living and dismissed well except one, which had an exophthalmic goitre and died one hour after delivery. Two mothers died. One had a flat pelvis and was operated on 24 hours after rupture of the amniotic sac. She had been examined by nine students and a relaparotomy had to be done on the seventh day after operation for general peritoneal infection, from which she died two days later. The second case was admitted with profuse vaginal hæmorrhage, probably caused by repeated unsuccessful manipulations with forceps. She died 27 days after the operation,

from an abscess in the cul-de-sac of Douglas and a diffuse purulent peritonitis. There was some delay in the healing of the wounds in most of the cases which had been operated on later than 20 hours after the rupture of the amniotic sac.

**Serebrenikowa: A Case of Ovarian Pregnancy** (Ein Fall von Eierstockschwangerschaft). *Arch. f. Gynäk.*, 1912, xcvi, 525. By Surg., Gynec. & Obst.

The author describes the microscopical findings in a case of right ovarian pregnancy, and comes to the conclusion that the fecundation of the ovum did take place in the cavity of the corpus luteum, but that it was retained in the curved and slanting tear of the follicle. It was not fecundated in the folds of the follicle, because the spermatozoa could not have penetrated there. If the ovum was retained in the aperture of the follicle, the spermatozoa could easily enter. This is facilitated by the intraperitoneal pressure, as the follicle has lost the power of driving them out. After fecundation, the ovum developed in the cavity in the lower part of which the usual metamorphosis continued. The corpus luteum was separated from the ovum by a connective tissue plate. This plate was found at the bottom of the foetal sac. The ovum then grew in this connective tissue wall, under and into the tunica albuginea and, corresponding to its increase in size, farther into the ovarian tissue and follicle. In its further development the ovum destroyed and resorbed the surrounding tissue through the syncytium, causing hyperæmia and greater growth of the struma. Around the amniotic sac the same process took place; here the destruction thinned out the wall of the matrix, which ruptured, and the blood, spurting out from the dilated ovarian vessels under high pressure, destroyed the fine villous spaces. This rupture occurred at a time when the connections between the ovum and the struma were still very loose, and this explains why only a small quantity of the foetal elements was found.

Of 39 cases of ovarian pregnancy found in literature, 4 children were at term and viable — 10 per cent. The cases of ovarian pregnancy may be divided into three classes: (1) The ovum develops in the Graafian follicle, as in the author's case, or in the corpus luteum; (2) the ovum develops on the wall of the ovary; (3) the ovum penetrates into the struma of the ovary and develops there.

**Williams: Further Contributions to Our Knowledge of the Pernicious Vomiting of Pregnancy.** *J. Obst. & Gynec. Brit. Emp.*, 1912, xxii, 245. By Surg., Gynec. & Obst.

This article is the author's first contribution to the subject since 1906, and is based upon his observations since that time. A large part of it is a discussion of the ammonia coefficient and its relation to pernicious vomiting. He still holds to his original classification of reflex, neurotic, and toxæmic vomiting, the neurotic form being the most common, while the frequency and importance of the reflex

type has been greatly exaggerated. The value of the paper is increased by charts and by the report in detail of 8 cases. The conclusions are:

1. The underlying factor in all cases of vomiting of pregnancy is probably an imperfect reaction on the part of the mother to the growing ovum.

2. In most cases this is only a predisposing cause, while a reflex or neurotic influence is the exciting factor, and cure usually follows its removal.

3. The author holds to the classification of reflex, neurotic, and toxæmic vomiting. Of these the neurotic is the most frequent and the reflex the least frequent type, while the toxæmic is the most serious.

4. Pronounced toxæmic vomiting is accompanied by characteristic lesions and profound changes in metabolism.

5. The significance of a high ammonia coefficient is not specific. It may be a manifestation of toxæmic vomiting, of starvation following neurotic vomiting, or of an acidosis due to various causes.

6. It should be regarded merely as a danger signal, while the differentiation between the various types is possible only after careful clinical observation. If improvement does not promptly follow appropriate treatment, the existence of toxæmic vomiting should be assumed and abortion promptly induced.

7. In the absence of genital lesions a low ammonia coefficient indicates neurotic vomiting, which can be cured by suggestion and dietetic treatment, no matter how ill the patient may appear.

8. In primiparous women vaginal hysterotomy is the most conservative method of emptying the uterus. Nitrous oxide gas or ether should be used in preference to chloroform for anaesthesia.

CAREY CULBERTSON.

**McPherson: The Radical Treatment of Abortion Based on a Series of 3500 Cases.** *Bull. Lying-In Hosp.*, 1912, viii, 234. By Surg., Gynec. & Obst.

The author presents a study of this large number of cases which occurred in the service of the New York Lying-In Hospital, from which it appears that abortions are more common than is ordinarily realized and that the sequelæ are frequently serious. McPherson finds that these cases can be divided into two classes, the first of which included 1781 so-called "neighborhood cases," mainly made up of women treated in their own homes and subject to the ordinary accidents of pregnancy; the second, or "hospital group," including many cases of criminal abortion and almost all of the accident and emergency cases. The number of primiparæ in the latter group was 25 per cent, leaving a rather low percentage of 8.9 primiparæ in the total number, or 16.5 per cent, approximately one primipara to every six aborting women. In this series there were 1320 cases between the sixth and twelfth week, 1220 in the first three months following this, and 800 in the first six weeks of pregnancy. In the entire series of cases the ovum was completely expelled in only 587 and unruptured in 480, showing that in a very large

proportion the process must be incomplete. For this reason the writer advises a radical emptying of the uterus in every incomplete abortion, and this method was employed in 2803 cases out of the series. The mortality was 38, or 1.8 per cent, including all the cases, and, exclusive of accident and malignant complications, only .016 per cent. Moreover, a satisfactory result was obtained in 97 per cent of the cases treated by this means. It seems necessary that in every inevitable or incomplete abortion the uterine cavity be explored and subjected to curettage, with careful antiseptic precautions and under complete anæsthesia, preceded when necessary by a gauze pack in the cervix and uterine cavity to stop hæmorrhage, separate the secundines, and dilate the cervix. After cleaning out the uterine cavity with a sponge holder and the careful application of a dull curette, followed by a sharp one, the interior is wiped out with gauze and packed with a continuous strip of iodoform gauze. In the presence of evident sepsis the sharp curette is omitted and the interior swabbed with tincture of iodine.

#### LABOR AND ITS COMPLICATIONS

**Edward: Dystocia in a Case of Uterus Didelphys.**  
*Am. J. Obst.*, N. Y., 1912, lxvi, Nov.

By Surg., Gynec. & Obst.

A study of the literature on uterus didelphys shows how infrequently at parturition the second uterus causes dystocia necessitating operation. In most cases the non-pregnant uterus has offered no resistance, either rising out of the pelvis spontaneously or being pushed up manually during delivery. In Laufer's case there was considerable obstruction, which was overcome gradually in the course of a slow breech extraction. Pollak's case was similar, and in Stahler's there was injury to the vagina, which was septate. Von Guérard reported a case where version was unsuccessful and the foetus was delivered by craniotomy. In two cases described by Bettman and Lählein delivery was by the vaginal route, but both mothers were lost as a result of rupture of the uterus. Abdominal section has been employed but twice, one of these cases not being a true uterus didelphys.

The author's case is that of an American woman aged 20, mentally under-developed. Menstruation had been normal since 14 years of age. She was seen in December, 1911, in labor, the termination of her first pregnancy. The child lay obliquely, the head in the right iliac fossa. Internally the external os was on the left, dilated 1 cm., the cervical canal being obliterated. In the right pelvic cavity lay a tumor, movable, but with an opening leading into it from the vagina, just beside the dilated os. It gave the impression of a second uterus. Reposition of the child was impossible, and Cæsarean section was performed after waiting a few hours. This revealed a genuine uterus didelphys. The pregnant uterus was removed by the Porro procedure, the second uterus being left. Recovery was uneventful, the child also surviving. CAREY CULBERTSON.

**Kreutzmann: Labor in Moderately Contracted Pelves, with Special Reference to Cæsarean Section.** *Cal. St. J. M.*, 1912, x, Nov.

By Surg., Gynec. & Obst.

The author recommends, in this class of cases, watchful expectancy. To the experienced and conscientious accoucheur it will become evident, after 10 to 12 hours from onset of labor, whether the woman is able to force the head through the pelvis or not. If it is apparent that the head will not pass, perform Cæsarean section; but if the labor has been protracted, possibly attempts at delivery having been made, the author strongly advises against Cæsarean section. In this class of cases Cæsarean section is done for the sake of the child; the life of the parturient must not be exposed to any danger whatsoever. There is a mortality in these cases after Cæsarean section. Reports of a number of successful cases, as occasionally made, do not tell the whole story; the fatal cases are not reported.

When symptoms of infection are present, delivery per vias naturales should be done — forceps applied and craniotomy done; in extreme cases the author even thinks craniotomy of the living child is permissible, and certainly it is better obstetrics than brutal application of the forceps, followed by crushing the life out of the foetus, and by severe, possibly fatal laceration of the mother; better obstetrics than Cæsarean section with death of the mother and possible death of the baby in a few days. The author has declined pubiotomy in his clientele, from fear of damage suits in case of failure.

#### PUERPERIUM AND ITS COMPLICATIONS

**Bumm: Three Cases of Puerperal Pyæmia, with Operative Treatment.** *Königliche Universitäts Frauenklinik, Berlin.* Reported by Dr. Warnekros, assistant; adapted by L. Robin-Goldsmith.

By Surg., Gynec. & Obst.

**CASE 1.** Patient robust, 40 years old, XII-para, admitted to hospital after having been examined by midwife and by physician. Findings: temperature 37.5°, pulse 100; os dilated 2 fingers' breadth; membranes ruptured (8 days previously). No heart tones. Dead foetus delivered spontaneously one half hour later. Placenta expressed in 30 minutes. Temperature 39.8°. After 24 hours, temperature 39°. No bacteria in blood. Streptococci and putrefactive bacteria in lochia. Fourth day, temperature 38°, pulse 100; slight chill. Chills and fever continued up to the tenth day. A rectal and vaginal examination showed infiltration and thickening to right of uterus. Laparotomy performed and common iliac vein ligated. Branches of the common iliac vein were thrombosed and adherent to the surrounding tissues. Temperature fell from 41° to 37.9°. No bacteria found in blood. On third day post-operative, patient died of aspiration pneumonia. Autopsy showed a double-sided broncho-pneumonia. Uterus and adnexa negative. Cultures from peritoneum sterile. On right side there was perivascular infiltration and the veins were filled with pus thrombi.

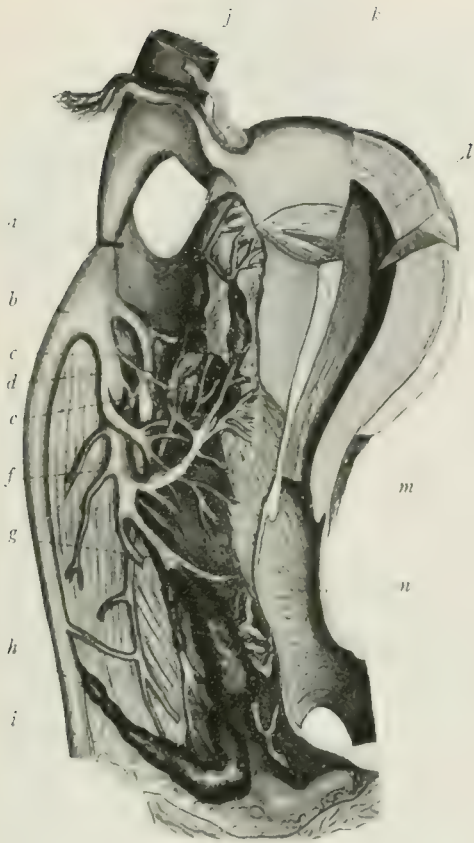


Fig. 1. The ligation of the common iliac vein had excluded from the circulation several purulent foci. *a*, ligation on the right common iliac vein; *b*, anastomosis from abscess to internal iliac vein; *c*, internal iliac vein; *d*, median iliac vein; *e*, abscess in parametrium; *f*, superior uterine vein; *g*, inferior uterine vein; *h*, anastomosis of the vaginal vein with the external iliac vein; *i*, external iliac vein; *j*, inferior vena cava; *k*, single common iliac vein; *l*, uterine cavity; *m*, cervix; *n*, vagina.

An abscess the size of a plum was found in the right parametrium and in the musculature of the cervix.

CASE 2. Primipara, 19 years old; examined by midwife; brought to clinic for delivery on account of heart trouble. Findings: pulse 110, irregular; loud systolic murmur over apex; no signs of failing compensation. Vaginal examination showed 3 fingers' dilatation; head fast in pelvis; pains regular and strong. In the morning, forceps delivery of living child. Placenta delivered spontaneously. Lacerated perineum repaired. Amniotic fluid had foul odor. After delivery, temperature  $37.2^{\circ}$ ; rose gradually to  $40.6^{\circ}$  on third day. Colonies of bacilli and streptococci found in cultures from blood and

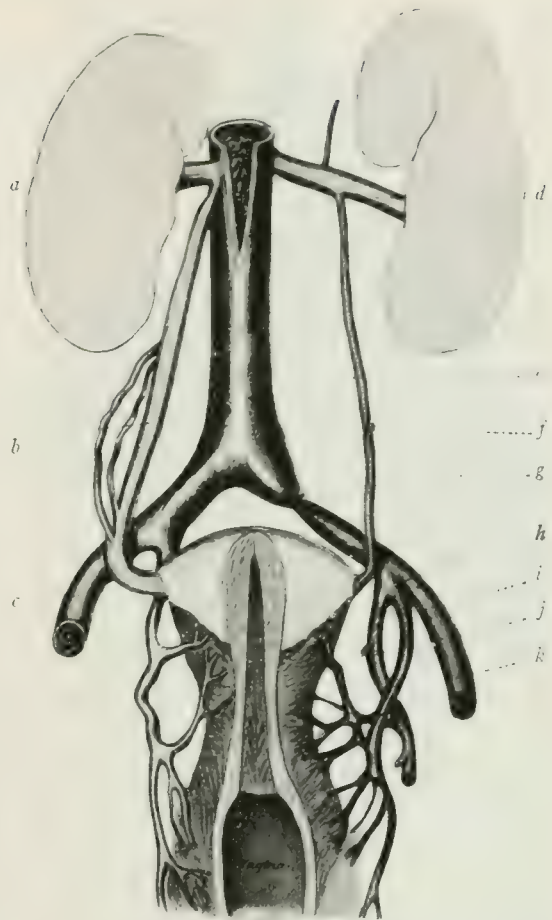


Fig. 2. The ligation of the left common iliac stopped the chills. *a*, right renal vein; *b*, right spermatic vein; *c*, external iliac vein; *d*, single renal vein; *e*, inferior vena cava; *f*, ligature of single spermatic vein; *g*, ligature of single common iliac vein; *h*, stem of hypogastric vein; *i*, median iliac vein; *j*, interior iliac vein; *k*, external iliac vein.

lochia. Patient had ulcers in larynx and trachea. On ninth day was given 10 cc. of Menzer's streptococci serum subcutaneously, and 24 hours later 20 cc. of Arenson's serum was injected. A few bacilli and no streptococci were found in blood culture taken one hour later. Three more injections were given in three successive days. Blood remained free of streptococcus, but temperature was not affected, remaining high until 28th day when the common iliac vein was ligated. Temperature gradually fell until the fourth day post-operative, when it was normal. For the next six days temperature remained normal and there were no chills. Blood culture showed a bacillus. The patient was emaciated and in poor physical condition and was given glucosa and salt solution subcutaneously and nutrition enema

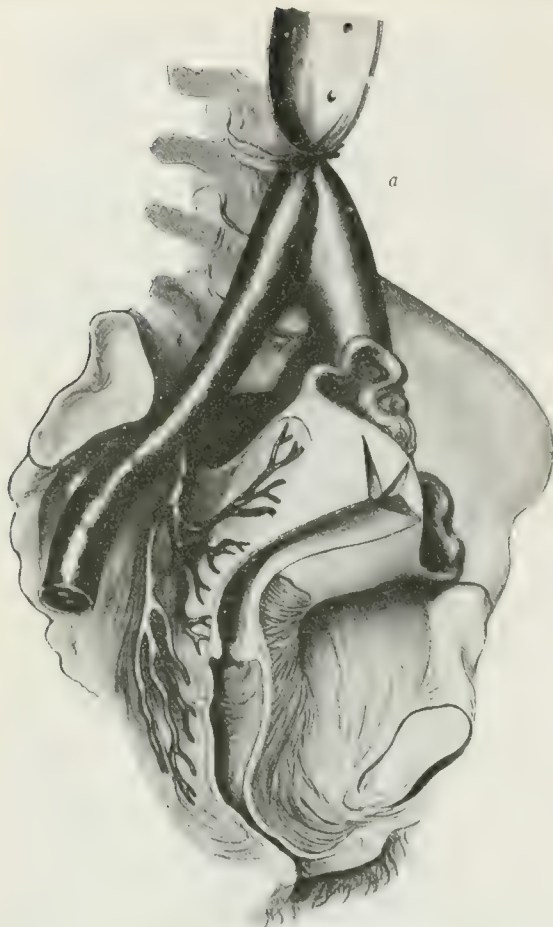


Fig. 3. Section through the closed vena cava. *a*, ligation of vena cava.

per rectum. However a severe decubitus developed. On the eleventh day post-operative, while the patient was being turned on her side, she complained of a severe pain in the abdomen. She died in 12 hours.

Autopsy showed pus in the pelvis, coming from a ruptured parametric abscess extending retroperitoneally to the spleen. The entire lumen of the vena cava was filled with a purulent thrombus extending up beyond the entrance of the renal veins and down to the femoral vein. The left pleural cavity contained pus and adhesions. The abscess showed a pure culture of streptococcus. The thrombus showed a pure culture of bacilli.

CASE 3. Primipara, anæmic, aged 36. Admitted with diagnosis of placenta prævia following an examination by a midwife. Temperature normal, pulse small, and frequent. Vagina filled with blood clot, cervix dilated one finger's breadth. The cervix was dilated digitally and podalic version performed; one foot was pulled down. As there was no progress

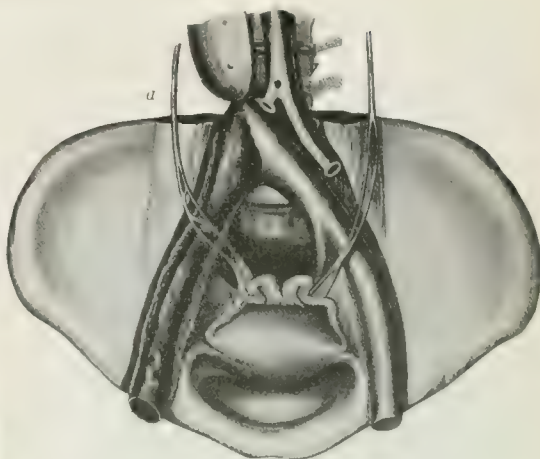


Fig. 4. Ligation of vena cava above the point of division. *a*, ligation of the inferior vena cava.

in the next 20 hours, despite traction on leg and subcutaneous injections of pituitary extract, cervix was dilated, second foot brought down, and delivery effected by means of perforation of after-coming head. Lacerated cervix repaired. Placenta delivered spontaneously in 15 minutes. Fragments of placenta removed digitally, uterus massaged bimanually, cold intrauterine douches given, and uterus and vagina tamponed. Tampon removed in 24 hours. Temperature: first day, 37°; second day, 38.7°; third day, 39.9°. Pulse slow, regular, strong. On fourth and fifth days temperature and pulse normal. Temperature then gradually rose till eighth day, when it was 39°. Pulse 110. Streptococci were found in blood. On eleventh day there was a severe chill and temperature 39.9°. Streptococcic serum injected on 12th, 13th, and 14th days. Blood cultures showed a few streptococci. From the 16th to the 26th days the temperature was that of a thrombophlebitis; pulse varied from 120 to 130, but there were no chills. On 18th day thrombophlebitis of right femoral vein was diagnosed. From the 26th to the 30th day serum again injected without effect. On 31st day inferior vena cava was ligated, for the right common iliac vein was thrombosed. The patient died 4 hours after operation. Autopsy showed a right-sided adhesive pleuritis, septic spleen, fatty liver; the inferior vena showed no thrombosis above ligature, but a marked thrombosis below ligature, extending to femoral and crural veins. The left common iliac vein was filled with liquid blood.

**Conclusions.**—The best time to operate is when, according to clinical and bacteriological findings, the process is localized. The operation should be performed at the time when the infecting organisms are being eliminated from the blood. The common iliac vein is the choice of the site of operation, but the inferior vena cava can be ligated without fear, for a compensatory circulation will form.

E. S. TALBOT, JR.

## MISCELLANEOUS

**Frank: An Experimental Study of the Placenta under Physiological Conditions (Ferments: Vital Staining).** *Surg., Gynec. & Obst.*, 1912, xv 558.  
By Surg., Gynec. & Obst.

The author gives a résumé of the work done on the placenta relative to the ferments present and also the permeability of the placenta to different substances. The ferments found in the embryo are also tabulated, showing variable results obtained by different workers. The author states that the gap between mother and foetus is bridged by the placenta. The foodstuffs carried to the placenta are contained in the blood. Certain substances are accepted, others rejected. The excretory products elaborated by the embryo also reach the maternal blood through the placenta. The presence of ferments, though suggestive, does not necessarily imply that these ferments perform the work; they may be present merely as an integral part of the placental cell, and the placenta may act purely as a delicately adjusted filter (using the term broadly, to include osmosis, diffusion, and even selective secretion).

The object of the investigation is to determine whether any differences exist in the ferment content of the functioning as compared with the non-functioning placenta. The author then gives the technique and the results of his experiments, showing with good color illustrations the "vital" staining. He draws the following conclusions:

1. The placenta does not show any parallelism between the ferment values and its functional condition.
2. Changes in the minute structure of the placenta, as shown by vital staining, are dependent upon the nutrient supply of blood furnished by the mother.
3. The foetal membranes possess a considerable degree of independence, and maintain their function unchanged much longer than the placenta.
4. The foetal membranes are more rapidly traversed by certain substances than is the placenta. Whether exchange effected by this route is of importance to the foetal metabolism was not determined.
5. The evidence obtained in this investigation

favors the view that the placenta is a passive organ for exchange, rather than an active organ of metabolism.

E. L. CORNELL.

**Markoe and Wing: The Thyroid and Its Relation to Pregnancy and the Puerperal State.** *Bull. Lying-In Hosp.*, 1912, viii, 152.

By Surg., Gynec. & Obst.

The authors report in detail their observations upon a series of 1000 pregnant women, which were entered upon a special form of analytical chart. Freund and Lange, in a recent communication, stated that they were unable to formulate any definite rules for measuring the thyroid gland, owing to the impossibility of devising a method that would be accurate. Markoe and Wing agree that a careful study of their cases, where the thyroid was palpable, shows that the results were no more satisfactory. It was found, moreover, that in most of the women examined no definite means of judging the time when their necks first began to enlarge could be elicited. In a study of the blood examinations made in most of the cases there was a small percentage of abnormalities, but these could be accounted for by pathological conditions in no way connected with the thyroid. Most careful analyses of the urine were made in all cases, with negative results, likewise no definite deductions could be made out in regard to the thyroid in its relation to toxæmia. Among the 1000 cases examined, 550 were primiparæ and 450 multiparæ. Ninety-seven cases of enlarged thyroids were found, in 64 primiparæ and 33 multiparæ. A family history of goitre was present in 8 cases (7 primiparæ and 1 multipara). In 6 primiparæ there was a history of menstrual disturbance. Hyperthyroidism was present in varying degrees in 7 cases, and probably in one other, although there was no palpable thyroid evident. In an endeavor to find out at what time the enlargement of the thyroid was first noticed among 97 cases, it was seen before pregnancy in 12 and during pregnancy in 18, 34 remaining doubtful, as the patients had not observed any changes in their necks, although when observed at term the gland was found enlarged. In multiparæ, the enlargement was determined before pregnancy in 8 cases, during pregnancy in 12, and doubtful in 13; the same remarks applied to the latter as in the cases of the primiparæ.

## GENITO-URINARY SURGERY

### KIDNEY AND URETER

**Hartmann: Technique and Results of Operations upon the Kidney** (Technique et résultats des opérations pratiquées sur le rein). *Reports of Hartmann's Clinics*, 1912, 4th series.

**Hartmann: Surgical Treatment of Diseases of the Kidneys** (Traitement chirurgical des maladies des reins). *Id*, p. 328. By Journal de Chirurgie.

These two articles are a résumé of the author's practice and constitute a veritable treatise upon renal surgery. In the first article the author describes the technique and the results obtained for each operation; in the second he gives the indications for operation in each disease of the kidney and explains the statistics derived from his own experience. Both articles are remarkable for their richness in material and for the number of personal observations published in extenso.

Hartmann conforms to the classical procedures in dealing with renal disease. He is always careful to test the functional activity of both kidneys by means of methylene blue, etc., before operating. He does not employ ureteral catheterism. He is opposed to artificial polyuria.

He has practiced 16 exploratory nephrectomies, with 10 cures; 6 decapsulations, with 3 deaths (one from anuria) and 3 cures; 17 nephrolithotomies, with one death and 16 cures (two had temporary fistulae); 6 pyelotomies, with 6 cures; 78 nephrostomies (77 lumbar, 1 abdominal), with 14 deaths and 64 operative cures; 124 nephrectomies by the lumbar route, with 3 deaths and 121 cures (in one case the vena cava was torn; it was doubly ligated); 8 abdominal nephrectomies, with 1 death and 7 cures; 35 nephropexies (32 in the female, 31 being right-sided)—in 15 cases there was renal retention, there was 1 death and 34 cures. The end results of fixation of the kidney vary because of the subjective trouble which may arise. Hartmann reports 11 favorable results in 17 cases.

The author treated 15 cases of anuria and 3 cases of anuria from nephritis, and all died despite decapsulation. One case of bilateral tuberculosis was cured by nephrotomy; 10 cases by calculous anuria, 2 of which were cured spontaneously; 8 were nephrotomized, and there were 5 deaths. For lithiasis (suppurative) Hartmann performed 12 nephrotomies, with 1 death and 7 complete cures; for aseptic lithiasis, 6 pyelotomies with 6 cures without fistula; 15 nephrotomies, with 1 death and 14 cures; 2 patients had a recurrence of the trouble. In 13 cases of movable kidney he did a nephropexy with 1 death and 12 permanent cures.

In 18 cases of malignant renal tumors which he removed, there were 11 hyponephromata, 3 renal

carcinomata, 2 epitheliomata of the pelvis and one fibrosarcoma of the hilum. The operative mortality was 11 per cent. In cases of malignant neoplasms, Hartmann advises the removal with the kidney of the perineal fat. He does not molest the supra-renal capsules. He is a partisan of early nephrectomy in unilateral renal tuberculosis. He has not any faith in the efficacy of medical treatment.

CH. LENORMANT.

**Braasch: The Clinical Diagnosis of Congenital Anomaly in the Kidney and Ureter.** *Ann. Surg.*, Phila., 1912, v, 726.

By Surg., Gynec. & Obst.

Within the past five years, 36 patients having gross renal and ureteral anomalies were observed in the Mayo clinic. Of this number, 7 were operated on for diseased conditions in the abdomen other than those in the kidney, in whom the discovery of the renal anomaly was largely incidental to general abdominal exploration. Eighteen were operated on for various pathologic conditions complicating the anomaly. With the development of the cystoscope and the radiograph, and, more recently, through the discovery of the value of these instruments in their simultaneous employment, as in pyelography, an accurate diagnosis can be made in practically every case of renal or ureteral anomaly.

In the order of their frequency the various anomalies were as follows: fused or horseshoe kidney, 11; congenital, single, or asymmetrical kidney, 6; atrophic kidney, 5; ectopic kidney, 3; duplication of renal pelvis and ureter, 8; division of ureter, 3.

The pathologic condition existing in the anomalous kidney or ureter usually calls attention, clinically, to its existence. That such kidneys are peculiarly liable to disease has been noted by various observers.

**Fused kidney.** The type of fused kidney most frequently found is the so-called horseshoe kidney. Although its usual position is in the median abdomen at about the level of the umbilicus, it often lies more to either side of the spine. Unfortunately, the subjective symptoms caused by various pathologic conditions found in the horseshoe kidney might easily be confused with the symptoms caused by disease in the surrounding organs. The radiographic shadow of soft tissues in the abdomen is usually too inexact to permit of accurate interpretation. Occasionally the outline of a median mass in a thin subject may be suggestive of a horseshoe kidney. However, more exact data are to be obtained through the combined use of the radiograph and the cystoscope; namely, through pyelography. The relative position of the pelvis is accurately determined, and any complicating dilatation or deformity

of either pelvis and ureter can be clearly demonstrated.

*Congenital single kidney.* The diagnosis of the congenital absence of one kidney can be made clinically only by means of the cystoscope, and thus the condition becomes a problem largely of cystoscopic technique. Inability to find a ureteral meatus in a markedly inflamed and contracted bladder does not necessarily indicate its congenital absence. In the hands of an experienced observer, however, the absence of any evidence of a meatus in the bladder which permits of thorough cystoscopic examination would be strong evidence of a single kidney.

*Atrophic kidney.* Atrophy of the kidney may be either congenital or acquired, and it may be quite impossible to differentiate the etiologic factors on gross examination. With a marked degree of atrophy of one kidney, the other kidney is usually found hypertrophied. The discovery of hypertrophy in a kidney upon abdominal exploration would necessitate examination of the other side. The clinical diagnosis of an atrophic kidney may be exceedingly difficult. It can be made from a quantitative estimate of renal function, cystoscopic evidence of ureteral atrophy, systemic evidence of renal insufficiency, and finally pyelography.

*Ectopic kidney.* When the kidney is found lying fixed in the bony pelvis or across the spine, and when its blood-vessels come from adjoining vessels, such as the iliacs, it must be regarded as a true congenital anomaly. Such a kidney is called an ectopic or pelvic kidney. Pyelography is more accurate in its diagnosis than ureteral catheters, since it will not only locate the kidney but will also demonstrate any pathologic complication.

*Anomalies of the ureter.* That the normal renal pelvis may assume any of a great variety of shapes is well known. The individual calices may be so large and so situated that they resemble separate pelvises, particularly so when the calices do not unite well beyond the hilum. When, however, there are two distinct pelvises within the hilum, and each has its separate calices and ureter, the condition must be considered as an anomalous duplication of the pelvis and becomes of practical importance.

*Division or partial duplication of the ureter.* The ureter may divide at any part of its course. The most frequent point of division is at the first portion of the ureter, where two more branches of the ureter leave the hilum and unite at a short distance. The diagnosis of pelvic duplication can best be made by means of the pyelograph. It is of surgical importance when resection is indicated.

**Ipsen: Researches on the Tumors of Grawitz.**  
*Beitr. z. path. Anat. u. z. allg. Path.*, 1912, liv, 233.  
By Surg., Gynec. & Obst.

It is generally admitted at the present time that the majority of tumors of the kidney which are characterized histologically by the presence of large vacuolated cells of polygonal contour have

their origin in the embryonic débris of suprarenal tissue which has been embedded in the body of the kidneys.

Ipsen claims that this theory, while generally accepted since the work of Grawitz (1885), nevertheless calls forth serious objections. The majority of tumors which unquestionably develop from the primary or accessory suprarenal capsules, but which are extrarenal, have a structure totally different from the tumors of Grawitz; notably, they never present the papillary formations which are generally found in the tumors of Grawitz. Moreover, these tumors have their seat of predilection in the region of the inferior pole of the kidney, while the intrarenal capsules by preference occupy the superior pole of that organ. Ipsen finds, on the other hand, many points of similarity between the tumors of Grawitz and certain adenomatous tumors the renal origin of which is universally accepted. He thinks that the cellular peculiarities of certain portions of the tumors of Grawitz are due to phenomena of degeneration.

In conclusion, the so-called hypernephromata appear to develop at the expense of the renal parenchyma, as claimed by Sabourin, Sudeck, and Zehbe.

E. S. TALBOT, JR.

**Stüsser: Primary Epithelial Tumors of the Renal Pelvis.** *Beitr. z. klin. Chir.*, 1912, lxxx, 595.  
By Surg., Gynec. & Obst.

The author reports a case of primary epithelial tumor of the pelvis of the kidney, and sums up his article with a fairly exhaustive tabulation of all similar cases that he has been able to collect from the literature. The case reported is that of a woman 66 years of age who for some weeks had been conscious of the pressure of a tumor mass in her left flank. There was no associated pyuria or hæmaturia. This tumefaction, occupying the left flank, disappeared above, beneath the costal arch, and extended downward to the rim of the pelvis; it was absolutely dull to percussion and was fluctuant. It simulated an ovarian cyst which was attached to a long pedicle.

Operation revealed a left hydronephrotic kidney, and a transperitoneal nephrectomy was performed. The patient recovered from the immediate effects of the operation, but a secondary involvement soon occurred, and death followed at the end of four months.

Examination of the extirpated kidney showed that the renal pelvis had been enormously distended, and thickened and hard infiltrated areas, which were raised above the surface and projected into the cavity, appeared throughout its wall. Microscopic examination of these hard papillary projections showed them to be composed of pavement epithelial cells malignant in character. The renal parenchyma was very much flattened and showed areas of degeneration. It is probable that some chronic kidney irritation preceded this epitheliomatous transformation.

E. S. TALBOT, JR.

**Bazy and Bazy: Should We Suture Incisions of the Renal Pelvis and of the Ureter?** (Faut-il suturer les incisions du bassin et de l'uretère?). *J. d'Urol.*, 1912, ii, 645. By Journal de Chirurgie.

The authors insist upon the advantages and the indications of pyelotomy. Pyelotomy is the operation of election; nephrotomy, on the contrary, is the operation of necessity. Pyelotomy is indicated, not only in small calculi of the pelvis, but in large and ramified calculi which, if removed by nephrotomy, cause much tearing of the renal substance. Nephrotomy will be reserved for calculi in the calices near the cortex of the kidney.

Concerning suture of the ureter or of the pelvis, in 16 operations the authors performed it 11 times; 5 times, for divers reasons, they could not do it. In the 11 sutured cases, 9 patients made an extremely rapid and uneventful recovery. In the 5 non-sutured cases, the patients recovered with a few simple accidents—discharge for a time of urine through the operative wound, abscess in the abdominal wall, etc.

Therefore they conclude that in all cases where it is practicable suture gives superior results, and it should be practiced whenever it appears possible. In order to avoid infection of the wound in infected cases, drainage of the ureter is preferable to suture. Furthermore, it permits lavage and disinfection of the pelvis. It seems that wounds of the ureter show less tendency to spontaneous healing than wounds of the renal pelvis, and that the indications to suture them are more imperative. One must avoid denuding the urinary conduits; it is a frequent cause of non-healing in ureteral and pyelitic wounds. The suture of the ureter is effected by three or four non-perforating catgut stitches, which suffice to approximate the edges of the wound. This may be reinforced by suture of the surrounding connective tissue layers. However, suture is not absolutely essential. One should not perform it when it appears too difficult, when it has no chance of giving a satisfactory result, when it is dangerous to the ultimate integrity of the caliber of the urinary channels, or when it is necessary to abridge the duration of the operation. J. TANTON.

**Schwytzer: Conservative Surgery in Purulent Infections of the Kidney.** *St. Paul M. J.*, 1912, xiv, 549. By Surg., Gynec. & Obst.

The pyogenic non-specific infections of the kidney are: (1) pyelitis; (2) primary pyonephrosis; (3) infected hydronephrosis; (4) hæmatogenous abscesses of the kidney substance.

Of each case examples are given of individual interest. Pyelitis may be treated by nitrate of silver irrigation of the kidney pelvis or removal of a calculus (cases mentioned).

As an example of a primary pyonephrosis a case is cited where apparently a ureter had been caught by a ligature at a former hysterectomy. The kidney was drained; 18 days later a stone and a stricture

of the ureter were removed, with smooth recovery and preservation of the large kidney.

As an example of an infected hydronephrosis a case is cited with 36 quarts of pus in the left kidney, through the sac of which every abdominal organ could be palpated, including the kidney of the other side. Kidney not removed. Permanent recovery without fistula.

As representative of the multiple hæmatogenous abscesses of the kidney substance (surgical kidney) a case is reported with severe multiple infection of the upper third of one kidney with temperatures for four weeks of 103° and 104° daily. The remaining two thirds of the kidney were normal. Resection of the septic upper third of the kidney was followed by prompt and smooth recovery.

**Elsner: Renal Hæmaturia.** *Am. J. Urol.*, 1912, viii, 567. By Surg., Gynec. & Obst.

Elsner calls attention to the newer methods which make the localization of lesions in the genito-urinary tract possible, though they still fail in many cases to make positive the true pathologic conditions.

The article is founded on the carefully reviewed histories of 4832 consecutively examined cases of internal disease. The unexpected frequency of nephritis as a cause of blood in the urine is demonstrated. The cases included 229 of chronic interstitial nephritis, of which 33 per cent showed blood in the urine; 14 cases of acute tubal nephritis, all of which had bloody urines; 77 cases of chronic interstitial nephritis, of which 14 per cent showed bloody urine; 8 cases of secondary congested kidney, in all of which urines were bloody. There were 7 cases of tuberculous nephritis. Of the 328 cases of nephritis there were only 12 in which hæmaturia was profuse or alarming. The author dilates on the frequency of nephritis as a cause for hæmaturia to which but scant attention has been given in the past. The clinical material is considered under the following divisions:

1. In chronic tubal nephritis one kidney may bleed, though both organs may be equally invaded or the two organs may alternate in supplying blood to the urine. The majority of renal hæmorrhages due to tubal nephritis are painless and may continue for weeks. Latency of nephritis during long periods following hæmaturia may mislead, as may also the segregation of urine from the bleeding kidney, for the diagnostician may be led to surgical interference in the presence of grave constitutional disease with advanced or latent nephritis in the non-bleeding kidney.

2. The author believes that profuse hæmorrhage with chronic interstitial nephritis is more frequently due to changes in the pelvis of the kidney than to any other single cause.

3. The author does not believe there is such a condition as essential hæmaturia and advances arguments against such assumption.

4. Renal hæmaturia with gouty diathesis, in

which there may be a latent nephritis without calculus.

5. Rare cases of paroxysmal hæmaturia, in which the chilling of the surface provokes bleeding. The majority of these ultimately die of nephritis after a long history.

6. Renal infarct associated with septic fever, often malignant endocarditis, as a cause of hæmaturia is fully considered.

7. Cases of acute or chronic primary infectious pyelitis, non-calculous with moderate hæmaturia. The history of these cases is characteristic, including temperature curve. They are more frequent in women, often during pregnancy and at the menstrual period; the pelvis is infected usually by the bacillus coli communis, occasionally by other bacteria (Fränkel and Friedlander) and the Lenhartz paratyphoid bacilli. The infection is direct, not of the ascending type. There are cycles of fever, associated remissions. The disease is usually right-sided and the kidney is palpable and tender. The paper further considers the causes of painful hæmaturia dependent upon renal invasion.

The author concludes that it is wise to extend our search beyond the kidney to the heart, and blood-vessels; to study blood pressure and the background of the eye in conjunction with modern methods, that safe and sane conclusions may be reached.

**Suter: End Results in Sixty Nephrectomies for Tuberculosis of the Kidney** (Ueber die Dauerresultate von 60 Nephrektomies wegen Nientuberculose). *München. med. Wochenschr.*, 1912, lix, 2437. By Surg., Gynec. & Obst.

Suter reports his experience of the last 6½ years. He emphasizes again the fact that the majority of patients with tuberculosis of the kidney show initially the picture of vesical catarrh. Of his 60 patients, 53 presented these symptoms; only 7 complained of pain in the kidney region, or the disease was discovered accidentally during routine examination of the urine. The author prefers ureteral catheterization; occasionally the separator is valuable. One patient died 24 hours after operation. He was 48 years old. The kidney and bladder were involved and his general condition poor. Autopsy revealed an extensive caseous tuberculosis of the peritoneum; the remaining kidney was intact. Fifty-nine patients survived the operation; of these 4 died later (remote mortality 6.6 per cent). The first of these patients was tuberculous and had undergone a double castration two years prior to the nephrectomy. The second patient, a woman 27 years of age, retained a severe bladder tuberculosis after the operation, with little tendency to healing. She died 2 years later, subsequent to a confinement. The third patient had a bilateral kidney involvement and a tubercular cystitis. This improved markedly, but she succumbed to uræmia 3½ years after operation. The fourth patient, a young man 22 years of age, was operated upon for

incipient right-sided renal tuberculosis. Six months after operation he had renewed symptoms of vesical tuberculosis; the prostate and seminal vesicles became involved. Tuberculin treatment continued for a year was of no avail. He died of miliary tuberculosis. At autopsy the remaining kidney was found to be sound. Fifty-five patients are still alive. Five of these are not considered, because the operation is of too recent a date. The results in the remaining 50 are as follows: Complete cure in 28 (56 per cent); considerably improved, 17 (34 per cent). Of these later, 5 have clear urine but still complain of bladder symptoms, probably due to cicatrices. One patient still has a fistula and 11 have cystitis. Little improvement is present in 5 (10 per cent). One of these cases, a man 45 years of age, has vesical tuberculosis and marked albuminuria. He was operated upon in 1905. Another case was operated upon in 1909 and has a similar bladder affection, but a sound kidney. Three cases were operated upon in 1911 and still offer hope of improvement. One of these, a woman 21 years of age, has improved much in general health, but still shows considerable bladder involvement. Another, a woman 46 years old, has much bladder disturbance and albumin; the remaining kidney is not tuberculous. The third, also a woman, 46 years of age, had bilateral kidney affection prior to operation. One kidney was removed because it was totally destroyed, causing the patient to be bedridden and unable to work on account of the high temperature. The patient is now able to work, but her bladder is involved and she is not able to take proper care of herself. For the prognosis regarding post-operative results the condition of the bladder is of utmost importance. The capacity of the bladder for the three divisions was as follows: The cured, 270 cc.; the improved, 150 cc.; the little or non-improved, 130 cc. Twenty-seven of the patients were males and 33 females. Genital tuberculosis complicated the kidney tuberculosis in 27 per cent of the males (16); only 1 woman had this complication. The frequent complication of the genital organs makes the prognosis for the male more unfavorable. Recoveries in women are nearly twice as numerous as in men. Suter finds no objection to marriage in a woman who has recovered from a renal tuberculosis. Pulmonary tuberculosis as a late complication is not prominent in Suter's cases, while the collective statistics of Israel show over 50 per cent of deaths due to pulmonary tuberculosis. The cases occurring in the cortex were predominant in Suter's cases and exceeded the variety beginning in the papillæ. The kidney was totally destroyed in 16 cases. In a few cases the ureter was occluded. Suter is in favor of operation in renal tuberculosis, despite the few cases of spontaneous recovery which have been published. Procrastination, especially in men, invariably leads to development of genital tuberculosis. Nephrotomy was done twice on account of technical obstacles to extirpation. Both cases were later nephrectomized and cured. In two other cases it was performed

for diagnostic purposes. The result was not satisfactory. Both patients, men between 40 and 50 years of age, died — one from thrombophlebitis of the crural vein and embolism; the other from embolism. Post-mortem examination showed tuberculosis of the split kidney in both cases; the second kidney was sound. This suggests that the treatment of renal tuberculosis must be based upon exact diagnosis, and that it is better to leave uncertain cases unoperated. Suter's experience with tuberculin has not been satisfactory. E. C. RIEBEL.

**Mayo: Nephrectomy without Drainage for Tuberculous Kidney.** *Surg., Gynec. & Obst.*, 1912, xv, 523. By Surg., Gynec. & Obst.

A sinus which is slow to heal often forms following nephrectomy for tuberculosis of the kidney, particularly in debilitated patients in whom the second kidney is somewhat involved. In operating, a large accumulation of clay-like fluid may be found outside the kidney. After removing the kidney, treating the ureter and mopping out the wound as well as possible, the cavity is filled with normal salt solution and the wound closed without drainage. Primary union, prompt and permanent recovery usually follow. The compensatory hypertrophy of the remaining kidney evidently furnishes sufficient hyperæmia to destroy such infection as may have existed within the substance of the remaining kidney. The normal salt solution enables material which is infected with tubercle bacilli in the attenuated state to be safely absorbed, because diluted and absorbed quickly before there is an opportunity to establish favorable cultural conditions. In cases in which the tuberculous material has not escaped into the wound and the patient is otherwise in good condition there is, of course, no necessity for using the salt solution, but drainage should not be employed if avoidable.

The stump of the ureter is a source of possible infection in the wound. Many surgeons either remove the kidney and ureter completely at the primary operation, or they suture the stump of the ureter to the skin with a protection of the wound. A ureter treated by injecting 10 to 20 mm. of carbolic acid (fluid 95 per cent) will rarely give trouble later.

Every effort should be made to remove the tuberculous kidney without the escape of its contents, and to secure this result an adequate incision is essential. The patient is placed on the sound side, with a considerable degree of elevation of the loin. A vertical cut frees the twelfth rib from its posterior attachments, and a long transverse incision mobilizes the lower wall of the thorax. In this manner a large kidney can be removed with ease.

**Heitz-Boyer: Pseudo-Cure of Renal Tuberculosis by Conservative Treatment; Partial Exclusion** (Pseudo-guérison de la tuberculose rénale par le traitement conservatif; exclusions partielles). *J d'Urol.*, 1912, ii, 692. By Journal de Chirurgie.

The author has shown in previous works that so-called cure of renal tuberculosis by medical treatment is only obtained by the exclusion of the dis-

eased kidney, and this pseudo cure is very uncertain, because there may develop insidiously in the other kidney serious nephritic lesions exposing the patient to most serious accidents. There are a few exceptional cases where ureteral catheterization has permitted the collection from a kidney previously known to be tubercular of absolutely clear urine, thus proving the disappearance of the infection and the persistence of kidney function.

Basing his opinion upon anatomical and pathological data, the author states that in these cases we are dealing, not with a curative process in the true meaning of the term, but with the phenomena of exclusion limited to the diseased portion of the kidney. This fact is in harmony with the habitual mode of tubercular renal contamination, this contamination being essentially regional, parcellary.

Furthermore, this partial exclusion, instead of being a safeguard to the remainder of the kidney, seems to expose it to the permanent danger of later contamination. Successive contaminations of different parts of the same kidney, leaving between the attacks an interval sufficiently long to permit exclusion of one focus, may be accompanied before the disease localizes itself in another area by intervals of apparent good health and of clinical remissions, which can easily give the illusion of cure. The author reports a case in confirmation of his thesis. In the kidney shown, active tuberculosis had been present at two distinct periods, separated by an interval of apparent cure, which corresponded to a localized exclusion of the first lesion. J. TANTON.

**Cuthbertson: Displaced and Movable Kidney in Women: Its Symptomatology, Diagnosis, and Treatment.** *Am. J. Dermat. & Genito-Urinary*, 1912, xvi, 582. By Surg., Gynec. & Obst.

The pathologic condition in women produced by displaced and movable kidney has not received the attention it deserves at the hands of the medical profession.

Authors vary widely in their estimates as to the frequency of occurrence of displaced kidney. Some base their observations on post-mortem examinations; others from clinical observations. A safe average would be from 5 to 7 per cent in women and from 2 to 3 per cent in men. There is no question but that a much larger proportion of people have displaced or movable kidneys, but as they cause no discomfort they are not to be considered in this connection.

**Treatment.** There are two ways open for remedying this pathological condition: first, by prosthetic appliances, and second, by surgical means. In thin women the author has been able to apply a kidney pad, which will hold the kidney in place and relieve the symptoms. As soon as the wearing of this pad is discontinued all the symptoms return. The great objection to this pad is that it is very uncomfortable to the patient, especially in the summer, and soon becomes burdensome. The most satisfactory treatment is purely surgical.

Short reports thirty cases treated by the following methods:

	Cases	Cured	Comp. relief	Little or no relief	Death
Transcortical suturing	14	0	1	4	0
Fixation by capsule only	8	3	3	1	1
Pure carbolic acid and gauze sling	8	5	1	2	0

In the transcortical suturing the sutures were passed first through the capsule, which had been stripped off, and then through the kidney substance. Secondly, the capsule was stripped off and sutured on either side to the muscles of the incision. Thirdly, the capsule was swabbed over with pure carbolic acid, the kidney replaced and supported by a gauze sling. He points out that the greater proportion of successes resulted from the carbolic acid gauze sling method.

Rest in bed and the application of heat or cold, with the administration of sedatives, are only applicable in cases of Dietl's crisis. Massage and electricity are only mentioned to be condemned, as they are nothing but a waste of time.

My experience would indicate that the ingestion of highly nutritious foods, with the object of increasing the perirenal fat, is not to be depended on, as two of my cases which relapsed both gained 20 to 30 pounds in weight, and still the kidney did not stay in place.

Billington reports a large number of successes by stripping off part of the fibrous capsule and hanging it over the twelfth rib, reinforcing it by catgut sutures through the kidney.

Carstens makes a vertical incision in the back at the junction of the erector spinæ and quadratus lumborum muscles, and after separating them incises the fibrous capsule by a Z-shaped incision, without delivering the kidney, and stitches the cut edges of the capsule to the edges of the muscles on either side with a continuous catgut suture. He reinforces this by a broad strip of adhesive plaster extending from one side of the body to the other, diagonally, after the incision has been closed.

I have had experience in operating on 25 cases. Of these I have reports on 15. In only 3 of these 15 cases had the kidney again become displaced during a period ranging from five years up to the present. One peculiar feature of the relapsed cases is that none of the distressing symptoms, such as pain, flatulence, and indigestion, which existed prior to the operation, have recurred so far. My only explanation is that at the time of the operation the kinks of the ureter were straightened out, the adhesions broken up, and in the new descent the kidney has prolapsed in a different direction.

My method of operating has consisted in opening the loin by an incision from the outer side of the erector spinæ muscle, beginning at the lower margin of the twelfth rib, and extending obliquely downwards and forwards above the crest of the ilium, as far as necessary. Through this incision the kidney is delivered, examined carefully for stone, hydro-

nephrosis, or tuberculosis, the fibrous capsule incised along the convex border, the capsule peeled back on both sides and rolled up. Three sutures of No. 3 chromicized catgut are first put through the transversalis fascia and the muscles on the outer side, then through the capsule, the kidney cortex, the inner roll of capsule, and, lastly, through the muscles on the inner side of the incision. One suture is placed at the lower pole, the second through the middle of the kidney, and the third through the upper pole. The kidney is then replaced and pushed up into its natural position, taking care that its normal axis is restored, and the sutures drawn comfortably tight and tied. Next, Senn's method of placing gauze below the lower pole in the space formerly occupied by the displaced kidney is resorted to, the end being brought out of the wound for drainage. The incision is then closed by long, stout, silkworm-gut sutures, and a large, copious dressing applied.

**Mursell: Successful Removal of a Tumor in the Adrenal Gland.** *Brit. M. J.*, 1912, Nov., 1179.

By Surg., Gynec. & Obst.

In 1907 Mursell operated upon a woman aged 39 years, 12 days after labor. She presented a hard movable tumor in the left lumbar region. It was not movable laterally. Symptoms of acute intestinal obstruction were present. A diagnosis of a pararenal condition was made and the abdomen was opened to disclose a retroperitoneal cystic tumor. The contents, consisting of old and recent blood clots and fluid blood, were evacuated. None of the wall of the cyst was removed. In 1912 the patient again presented the symptoms of acute intestinal obstruction. Since the former operation she had been very well, though she had had some loss of weight and had moderate left lumbar pain. In the left loin was a densely hard tumor, movable antero-posteriorly but not vertically. The colon was in front of the tumor. Operation: Oblique left lumbar incision disclosed a large dense tumor with a dense fibrous capsule. The tumor was about twice the size of a foetal head. It was easily separated from the kidney, which was pushed down into the left iliac fossa. Separation from the diaphragm and peritoneum was more difficult. The tumor was reported pathologically to be hypernephroma. The patient left the hospital on the 29th day, well. The author says that this is the first case reported of removal of a suprarenal tumor by the lumbar incision.

M. S. HENDERSON.

**Küss: Foreign Bony Vesical Bodies, Especially Intravesical and Intraureteral Inflammatory Sequestra of Pelvic or Vertebral Origin** (Des corps étrangers osseux de la vessie, et plus spécialement des séquestres inflammatoires intra-vésicaux et intra-urétéraux d'origine pelvienne ou vertébrale). *Reports of Hartmann's Clinics*, 4th series, 1912, 224.

By Journal de Chirurgie.

The author proposes the following classification of bony foreign bodies found in the bladder: 1.

Osseous bodies foreign to the organism introduced (a) through the natural channels, (b) through penetrating wounds (buttons, etc.), (c) by way of vesico-intestinal fistulæ. 2. Osseous foreign bodies of embryonal or foetal origin, originating (a) from dermoid cysts, (b) from an extrauterine gestation. 3. Foreign bodies of skeletal origin; (a) traumatic (gunshot wounds, fracture of the pelvic bones), (b) non-traumatic (inflammatory sequestra). Having had a case of the non-traumatic group secondary to a pelvic osteitis, the author collected the cases previously published and discussed this exceptional condition.

The patient, a male 30 years of age, had a pathological past. At the age of 18 he had an osteomyelitis of the pubis necessitating curettage of the bone, and for about 8 years accompanied by abscess formation and fistulæ. At the time this osseous lesion appeared cured, the first urinary disturbances became manifest — hæmaturia and pyuria, and on several occasions the patient expelled through his urethra small bony fragments which were designated calculi by his physician. He was treated for gonorrhœal cystitis with permanganate irrigations, and for stricture by linear electrolysis. Shortly after this a perineal abscess appeared which ruptured and led to a fistula formation. At that time (July, 1905) an external urethrotomy was performed and the fistulous tract removed. Two months later the patient came back with an orchitis and a urethral discharge; a foreign body could be felt in the urethra on the proximal side of the cicatrix. Hartmann also performed an external urethrotomy and removed a sequestrum 25 x 11 mm. The patient recovered, but had a new attack of osteitis at the level of the iliac crest which necessitated curettage of the bone.

In the literature Küss has been able to find only 20 analogous cases — 18 in males, 2 in females. He has found 10 osteomyelitic sequestra of the pelvic bones, 9 sequestra of hip-joint origin, and the unique case of Buxton-Browne, in which the intravesical sequestra originated from a Pott's disease of the eleventh and twelfth dorsal and first lumbar vertebrae. The penetration of sequestra as well as the intravesical evacuation of the abscess are effected by a slow and progressive ulceration of the bladder wall. The perforation may ultimately heal. Once in the bladder the sequestrum may be latent. There may be cystitis, etc. Vesical intolerance occurs or the sequestrum may become incrustated and form the nucleus of a phosphatic or urophosphatic calculus. Often, if the sequestrum be small, it will be expelled at time of micturition; if voluminous or irregular, it becomes impacted in the urethra and causes accidents — dysuria, periurethral abscess, urinary infiltration, or fistula.

The symptoms are those of a foreign body. The history, the presence of cicatrices, evidences of an old osteitis or a hip disease are suggestive of the condition, though a correct diagnosis is usually made only at the time of operation. The treatment

consists in the immediate ablation of the sequestra. In 8 cases of sequestra impacted in the urethra, Küss succeeded in 3 cases in removing the sequestra by the natural channels; in 5 cases external urethrotomy was done (4 cures and 1 death), in three cases there were 3 cures; in 14 cases of vesical sequestra or vesical calculi with a bony nucleus; he performed lithotripsy 7 times with 5 cures, 1 recurrence, and 1 death; he incised the bladder 5 times, and had 3 cures and one death. CH. LENORMANT.

**Lewis: The Removal of Ureteral Stone by Cystoscopic Methods.** *N. Y. M. J.*, 1912, xcvi, 1002.  
By Surg., Gynec. & Obst.

The subject is presented from the urological standpoint, and presents a forceful argument against the custom commonly carried out, in both the practice and writings of many practitioners, of ignoring the importance and capabilities of cystoscopic methods in removing or assisting in the removal of stones from the ureter. It is pointed out that most of the contributions on ureteral surgery, both in text-books and in essays, either fail to mention this method, or allude to it in such a way as to indicate that it is a feat more or less dubious and untrustworthy. The impressions of several authors along this line are cited, indicating the lack of esteem in which it is held, and the further fact that they advise going direct from the expectant plan of treatment to the open operation by abdominal incision.

The author quotes from a number of other writers showing that the non-cystoscopic plans of expectant and operative treatment are not all-sufficient, thus indicating that there is both room and need for utilizing the cystoscopic method, provided it has a modicum of success to justify it.

Histories of dangerous or disastrous conditions occurring in connection with open operations in the hands of such men as Deaver, Isaacs, Moschowitz, Peterkin, and others are quoted from the writings of those gentlemen; and the statistics of 134 cases collected by Tenney, in which the open operation was followed by a mortality of surprising dimensions (upwards of 12 per cent), are referred to. In 23 cases collected by Deaver the mortality is given as 10.8 per cent.

The best claim for the efficiency of the expectant plan is made by Lester Leonard, who declares that it proves successful in fifty per cent of all case of ureteral stone. This leaves fifty per cent of all cases *unsuccessfully* met by this method of treatment.

On the other hand, what of the cystoscopic plan? The records of medical history tell us of a sufficient number of successes attained through cystoscopic measures to warrant their use under conditions recognized as favorable for their success. Successes have been reported by Howard Kelly, Moschowitz, Young, Kreissl, Casper, Kolischer, Schmidt, Braasch, Bransford Lewis, and a number of others. The cystoscopic methods employed ranged from the ureteral injection of oil or glycerin to the use

forceps, dilators, scissors, sounds and other cystoscopic accessories, and have referred to calculi impacted in the ureter at various points. Naturally, the lower the impaction in the canal, the more accessible to cystoscopic manipulation and the greater probability for the success of the method. While the low situation makes it relatively easier for cystoscopy, it is generally agreed that it is the low lying stone that is most difficult of access and removal by the open operation. According to statistics, the lowermost portion of the canal is the one in which the great majority of stones are arrested. Tenney declares that comprehensive statistics show they are found here more frequently than in all other situations put together; and over two and a half times as frequently as at any other single location. Therefore it would seem that in selected cases, especially in those of low ureteral impaction, the cystoscopic method of removal offers by far the best hope of success.

### BLADDER, URETHRA, AND PENIS

**Zuckerkancl: Vesical Retention of Urine in Villous Tumors of the Bladder** (Vesikale Harnstauung bei zöttigen Blasengeschwülsten). *München. med. Wchnschr.*, 1912, 1, 2570.  
By Surg., Gynec. & Obst.

Villous tumors of the bladder, with short or long pedicle, may cause all known forms and degrees of vesical retention of urine, when they are located at or near the orifice of the bladder. Even large tumors of the trigone, however, do not necessarily result in retention. With the first mentioned tumors the sphincter relaxes, the soft tumor sinks into the urethra and is pressed further and further by the detrusor. With the growth of the tumor micturition becomes more and more difficult until the function of the bladder partly or completely ceases. Of 82 cases of pedunculated tumors of the bladder operated on since November, 1908, 3, or 3.6 per cent, had caused retention of urine and were cured by excision. Cystoscopic examination is demanded in all cases of chronic, complete or incomplete retention of urine, as the presence of tumors may easily be mistaken for hypertrophy of the prostate.

**O'Neil: Cancer of the Bladder.** *J. Am. M. Ass.*, 1912, lix, 1786.  
By Surg., Gynec. & Obst.

O'Neil limits his discussion to that type of new growth which is early infiltrating and which requires resection of more or less of the bladder wall for its removal. There are no symptoms which will distinguish this from other bladder tumors. A comparatively long time may elapse between the appearance of the first symptoms and extension of the growth outside the bladder. Accurate diagnosis can safely be made by cystoscopy. He advocates transperitoneal cystotomy, and reviews the results so far obtained by this method. At times it will be impossible to tell, previous to operation, whether or not a radical removal can be attempted. An ex-

ploratory suprapubic cystotomy should be done, and then if radical excision seems advisable it can be done by extending the operation to the transperitoneal route.  
L. G. DWAN.

**Hartmann: A Few Remarks Concerning Forty-Seven Operations for Tumors of the Urinary Bladder** (Quelques réflexions à propos de 47 opérations pour tumeurs de la vessie). *Reports of Hartmann's Clinics*, 1912, 4th series, 207.

By Journal de Chirurgie.

With the exception of one case of myoma, which recurred after two removals by the abdominal route and which eventually ulcerated the abdominal wall and caused death, all the tumors observed by Hartmann were epithelial neoplasms, papillomata, or carcinomata. The author differentiates two types of tumors—tumors projecting into the cavity of the bladder and infiltrating tumors.

**Non-infiltrating tumors.** Twenty operations upon 15 patients. Two cases have been operated upon several times for recurrence. The immediate results are good, with only two deaths, both independent of the operation (strangulated hernia and cerebral hæmorrhage). The late results are encouraging. Nine cases have been followed, and the author finds there have been 6 cures lasting from three to seven years, 2 recurrences, and one death, due to rectal cancer.

**Infiltrating tumors.** He has had 26 cases. In only 9 patients did he perform a radical operation; that is, a partial cystectomy. The results as given—one operative death, one death from pyelonephritis, two cures that are now five and nine years old—are not bad when we bear in mind the usual gravity of these tumors. These are cases in which the summit of the bladder was resected.

In 17 other cases the author performed palliative operations—vesical cystotomy, supplemented by curettage and cauterization of the tumor. The operative mortality is high. The results obtained are so mediocre that Hartmann believes that in the absence of intolerable pain or of hæmorrhage directly menacing life, it is better not to intervene.

CH. LENORMANT.

**Judd: Results in the Treatment of Tumors of the Urinary Bladder.** *J. Am. M. Ass.*, 1912, xx, 1768.  
By Surg., Gynec. & Obst.

In the surgical treatment of tumors of the urinary bladder, the anatomic relationship must be preserved in order to maintain function. While most tumors of the bladder are papillomata, they occur frequently in multiple form. The large tumor is apt to overshadow the smaller tumors, one of which may easily escape notice. A large percentage of tumors of the bladder occur in the base or on the wall close to the base at or near one of the openings of the ureters or of the urethra. These positions render the lesions extremely inaccessible to the surgeon, making their treatment most difficult, with a high percentage of recurrences.

The methods of operative procedure and treatment must be determined (1) by the general condition of the patient, (2) by the cystoscopic findings. Arteriosclerosis, renal insufficiency, myocarditis, etc., are factors contraindicating radical procedures. Bimanual examination by vagina in the female and by rectum in the male is most important in the diagnosis, as thus we may be able to determine the presence and extent of induration. Many times cases will be eliminated in which otherwise operation might be attempted. When possible a specimen of the growth large enough for a microscopic examination should be excised through the cystoscope.

One of the chief advantages in the transperitoneal operation is that it affords an opportunity to observe the pelvic lymph nodes and the abdominal viscera.

The technical points in the various types of operations for tumors of the urinary bladder have changed very little in the past few years. We believe that in these operations, as well as in operating on any other malignant tumor, the tumor should either be excised with the cautery, or the cut edges remaining after the tumor has been removed should be thoroughly cauterized. This is especially important in all papillomata.

If patients can be seen earlier and the technique can be improved so that a more radical excision may be done with a greater degree of safety, the results in the treatment of tumors of the bladder may be made to compare favorably with the results in the treatment of malignancy in other organs.

**Lower: Suprapubic Cystotomy for Vesical Calculus; Indications and Operative Procedure.** *J. Am. M. Ass.*, 1912, lix, 1956.

By Surg., Gynec. & Obst.

Lower says each year brings a better record for the suprapubic operation, while there has been but little advancement for the crushing operation. A very large prostate, an encysted stone, or a stone with a foreign body as a nucleus are contraindications to the successful use of the lithotrite. For these cases suprapubic cystotomy is recommended.

Indications for suprapubic cystotomy are: stone too large or too hard to be grasped by the lithotrite; encysted or adherent calculi; presence of multiple stones; in the young; in old men with prostatic hypertrophy; calculus projecting from the end of the ureter and foreign body as a nucleus of the stone. If the bladder is properly closed, a week or ten days is all the time needed for a complete cure. He has operated by the suprapubic route 53 times in 49 cases with no deaths. Until a practical observing lithotrite is invented, suprapubic cystotomy must remain the method of choice by the majority of operators.

L. G. DWAN.

**Greensfelder and Gatewood: A Case of Pseudohermaphroditism.** *Surg., Gynec. & Obst.*, 1912, xv, 582.

By Surg., Gynec. & Obst.

A case of pseudohermaphroditism belonging to the masculinus internus type is reported by Greensfelder and Gatewood, of Chicago. The patient was

27 years of age, married, and had one child. He entered the hospital on account of a dull, aching pain in the back and the sacral region, which had been present intermittently for eight months, during most of which time he had blood in the stools. Constipation had been present and he had passed much gas and mucus per rectum. Eight months previously he had been operated on for an inguinal hernia, and was told that a uterus and ovary had been found. In less than a year he had lost 39 pounds. Had no cough and no night sweats. Previous and family histories negative. On examination a diagnosis of carcinoma of the rectum was made, and the patient was operated on by Dr. Greensfelder. When the condition described below was found, Dr. Frankenthal was called in to perform the gynecologic part of the operation. The broad ligaments were found in the usual location. In the position usually occupied by the uterus, an organ resembling a uterus with a much elongated cervix was found. In about the normal position of the ovaries were two oval bodies, which were thought at the time of operation to be ovaries. A tumor mass, about the size of a small apple, was adherent to the rectum, and there was other evidence of carcinoma. Numerous hard masses were present about the base of the organ which was supposed to be the uterus, and it also was thought to be carcinomatous. The "uterus and adnexa" were removed. About eight inches of rectum was then resected and the two ends of the gut brought together by an end-to-end anastomosis.

The specimen removed at operation consisted of two ovoid bodies (thought at the time to be the ovaries, but which on microscopic examination proved to be the testicles), two triangle shaped bands, the broad ligaments, and an elongated, roughly cylindrical mass, the uterus, lying between them. The seminal vesicles were placed on either side of the uterus and emptied into the prostatic urethra. A small oval body just below each testicle and extending a little external to it proved to be epididymes. Ducts from these passed close to its sides until they emptied into the prostatic portion of the urethra. Ducts representing the Fallopian tubes ran downward and outward from the two cornua between the layers of the broad ligament.

## GENITAL ORGANS

**Fuller: Seminal Vesiculotomy, Its Purpose and Accomplishments.** *J. Am. M. Ass.*, 1912, lix, 1959.

By Surg., Gynec. & Obst.

Fuller refers to his former article for description of this operation. He offers suggestions for dissection of cadavers in the knee-chest posture, and briefly discusses the regional anatomy. He groups his cases according to the prominence of clinical symptoms: (1) urinary; (2) genital; (3) nervous and mental; (4) rheumatic. He has done 254 operations of seminal vesiculotomy with no mortality, and reviews the results obtained in the foregoing groups. Retention follows about once in five cases.

Of 89 rheumatic patients there was not one who was not relieved in a most radical manner. Eighty per cent were well and free from all symptoms when they passed from observation a month or six weeks after operation.

L. G. DWAN.

**Judd: The Technique of the Operation of Suprapubic Prostatectomy with a View to Reducing the Length of Time of Convalescence and Insuring a Good Functional Result.** *J. Lancet*, 1912, xxxii, 589.

By Surg., Gynec. & Obst.

Until within the past few years the perineal operation for removal of the hypertrophied prostate was the operation of choice in many hospitals in this country. Advocates of this method argue, first, that the mortality is less, and second, that the time of convalescence is shorter, since the perineal wound heals more quickly than the suprapubic. A more careful study of the cases, however, would indicate that the mortality is not directly the result of the operation but depends upon the functional capacity of the kidneys, the condition of the heart, and the general circulation, which is true in either operation.

The treatment is usually divided into two stages: First, to relieve the patient of residual urine and to treat the cystitis should it exist. Urine retained in the bladder should be withdrawn gradually. In many instances it will require several weeks to carry out this treatment. Second, after the reaction due to the withdrawal of the urine has passed, the removal of the obstructing prostatic gland can be carried out. This procedure will be accomplished more satisfactorily and safely because of the preliminary treatment.

The functional results so far as the patient's ability to absolutely control the urine is the most important factor in the treatment of these cases. This result is attained in the perineal operations in a large percentage of cases and always follows the suprapubic method.

**Operation.** The abdominal incision is made in the usual way and the recti muscles separated. The fat in the suprapubic space is dissected off from the fundus of the bladder and the peritoneum pushed back. It is very essential that the peritoneum be stripped well back and that the bladder be lifted up as far out of the abdominal incision as possible. With the fundus of the bladder lifted well out of the abdominal incision, the wound is packed off with gauze; the bladder, which a few minutes before has been cleaned as thoroughly as possible, is now opened by free incision, usually about 2 inches. It is well at this stage of the operation to examine the bladder for stones or other lesions. This is especially important if it has not been possible to make a satisfactory cystoscopic examination. With gloved fingers of the right hand in the rectum, the gland can be pushed well up into the bladder. The first, and if necessary the second, fingers of the left hand are introduced into the bladder. The enucleation should include the entire hypertrophied part of the prostatic gland. If enucleation be done within the capsule and the hypertrophied part of the

prostate be entirely removed, there will be very few cases in which it will be necessary to use even a gauze pack to stop the bleeding. Sharp hæmorrhage may be caused by dissecting outside the capsule into large vessels or by leaving a piece of the prostate in the capsule. If the gland be entirely removed, the capsule will contract and the chief bleeding will be the oozing from the mucous membrane edge in the urethra and bladder.

As soon as the gland is removed the bladder is freely irrigated. If oozing be slight, as will be the case in a good percentage of cases, the wound in the bladder is closed completely, as drainage through the urethral catheter will be sufficient. If oozing continues and clots form in the bladder, a fair sized tube is accurately sutured into the upper angle of the wound in the bladder. This tube is removed in 24 hours and a catheter inserted.

The chief disadvantage in suprapubic operation is infection in the space of Retzius, and this technique gives as little chance of infection as possible.

**Burrett: The Surgery of the Prostate; with Deductions from Fifty Consecutive Cases.**

*J. Am. Inst. Homeo.*, 1912, v, 452.

By Surg., Gynec. & Obst.

To the average person presented for surgical relief of the enlarged prostate, an extension of five or ten years of life is the object of greatest moment. The control of urinary stream, with absence of fistula and the lowest possible mortality, are of most importance in 99 per cent of these cases. As the advice for early operation is more freely accepted, the question of retaining normal sexual function will become correspondingly more important. It would seem that a complete removal of the prostatic urethra were more advisable than to have a part of it remaining, for the reason that the bladder may settle down into the cavity left by the removal of the hypertrophied prostate and any remaining urethra might cause obstruction or tortuous passage.

The after care for this operation is easy while in bed. We are able to get our patients out of bed in from five to seven days, except in the case of the oldest men. The upright position thus facilitates better drainage and seems to encourage the flow through the normal urethra more promptly.

We find the median vertical skin incision always sufficient, and it has the advantage over the inverted V incision of healing more promptly. The urethra is incised at the apex of the prostate, and a clean cut made through the floor of the prostatic urethra, guided by a grooved staff. The prostatic capsule is opened and the gland peeled out from within the urethra. If found necessary, the prostate is brought within reach of the finger by means of the Young prostatic tractor. Resulting from our first 50 prostatectomies there were two deaths. There was one post-operative urethral perineal fistula as above described. Pathological findings show six cases of adenocarcinoma. One of those cases is dead, and the others are well and living at the present time. The remaining 44 cases were adenomatous hyperplasia,

fibrous hyperplasia, and chronic gonorrhœal inflammations, their frequency being in the order mentioned.

In conclusion, perineal prostatectomy is an operation of low mortality rate; it offers drainage at the natural point; it makes possible the shortest time in bed, and the final results are equal to the suprapubic route when the operation is properly performed.

#### Wilms: Results of Perineal Prostatectomy with

**Lateral Incision** (Die Erfolge der nach meiner Methode ausgeführten Prostektomien mit seitlichem Schnitt). *München. med. Wchnschr.*, 1912, 1, 2548.

By Surg., Gynec. & Obst.

The procedure for prostatectomy is as follows: Test of function of kidney with indigo-carmin injection. For epidural anæsthesia, injection of 20 cc. physiologic salt solution, with 4 to 5 drops of adrenalin into the sacral canal and injection of 20 cc. of a 2 per cent novocain solution subcutaneously. Introduction of Young's retractor. Incision parallel to the lower os pubis and  $1\frac{1}{2}$  to 2 cm. from the symphysis. Incision of fascia perinei superficialis. Blunt separation of the tissues. The point where the retractor enters the prostate can easily be felt with the finger. The capsule lying below the prostate is then perforated with a dressing forceps, which is opened to allow the entrance of a finger to loosen the gland as far as possible from its surroundings. The retractor is then removed and, while the assistant presses upon the full bladder, the prostate is completely freed with the finger and extracted with a forceps. The results in the 31 cases thus operated upon are such that catheterization is needed in none, and no fistula has remained, the latter closing in from 14 to 20 days after operation. All patients became continent, and in no case was the sexual function disturbed.

**Hartmann: Technique of Transvesical Prostatectomy** (Technique de la prostatectomie transvésicale). *Reports of Hartmann's Clinics*, 4th series, 1912, 101.

**Hartmann: Immediate and End Results of 118 Operations for Prostatic Hypertrophy** (Résultats immédiats et éloignés de 118 interventions opératives pour hypertrophie prostatique). *Id.*, 110.

By Journal de Chirurgie.

These two memoirs give the experience of Hartmann in prostatic hypertrophy. The operations performed are as follows:

1. Suprapubic cystostomy, 6 cases. These are not of recent date, as Hartmann has more or less given up this operation since the advent of prostatectomy. Two patients died shortly after operation, owing to the continuance of the infectious symptoms. The others were cured operatively but did not live a long while afterwards. One lived ten years, with a very good functional result. The best procedures consist in making a narrow opening and in suturing the bladder mucosa to the skin, though this is not always feasible.

2. Bottini operation. Three patients were operated on ten years ago. In one patient it was necessary to perform secondarily a prostatectomy.

3. Perineal prostatectomy. Four cases of partial prostatectomy, with bad results; 1 death and 3 failures (persisting retention). Forty-three subtotal prostatectomies have given 8 deaths and 35 cures; in 2 cases death was due to secondary hæmorrhage, and in 3 to pulmonary complications. Other accidents have been noticed: orchitis (10 cases), rectoperineal fistula (2 cases). Late results are known in 27 cases; 18 do not present any urinary disturbances; 9 have either a slight cystitis or incomplete retention; none have incontinence.

4. Transvesical prostatectomy. Results of partial operations are not much better than perineal operations. Eight cases with 3 deaths, and among the recoveries only 2 are complete.

For transvesical prostatectomy Hartmann follows the technique of Fryer. Chloroform anæsthesia is used and the bladder is distended with a concentrated solution of boric acid. The prostate is enucleated and then the margins of the vesical incision are sutured to the borders of the musculo-aponeurotic wound, thereby avoiding retraction of the bladder and urinary infiltration. This technical detail is important. Against hæmorrhage, he uses neither forceps, ligatures, tamponade, nor massage of the cavity left by the enucleation. The tube of Fryer or de Duchastelet is left in place for from four to seven days. It is removed as soon as the urine is clear, and a sound is placed in the urethra.

Hartmann has performed 53 prostatectomies with this technique, and has had 44 cures and 9 deaths: 1 due to spinal anæsthesia, 1 to anuria, 4 to pulmonary complications, 2 to urinary infiltration, 1 to pyonephritis. He has had reports from 29 patients; 24 have perfect micturition and report being without the slightest urinary disturbance. The end results of transvesical prostatectomy are much better than those of perineal prostatectomy.

CH. LENORMANT.

#### MISCELLANEOUS

**Cabot: The Present Standing of the Operation of Litholopaxy.** *J. Am. M. Ass.*, 1912, lix, 1954.

By Surg., Gynec. & Obst.

Cabot believes that litholopaxy is the operation of choice in all uncomplicated cases of stone in the bladder. This operation has a mortality of from 1.6 to 6 per cent, while in suprapubic lithotomy the percentage is from 10 to 20 per cent. The cystoscope gives the operator ample opportunity to inspect the interior of the bladder. The skill required in the use of the lithotrite is no greater than that needed in an ordinary cystoscopy. In prostatic obstruction, with secondary stone, the removal of the stone is merely an incident to the removal of the prostate. Thus most of the cases of real difficulty in the domain of litholopaxy are removed, and for the crushing operation are left the uncomplicated cases with practically no mortality.

L. G. DWAN.

## SURGERY OF THE EYE AND EAR

**Wood: Some of the Accidents and Complications Attending or Shortly Following the Extraction of Senile Cataract.** *Illinois M. J.*, 1912, xxii, 541.  
By Surg., Gynec. & Obst.

Most of the accidents and complications that arise during and after cataract extraction are the result not solely of defects in the manipulative skill of the surgeon, but are due quite as often to lack of control on the part of the patient. Other causes of trouble are undesirable local conditions, immaturity of the cataract, the septic condition of the eye or its appendages, or lack of the usual aseptic precautions.

An idiosyncrasy against belladonna in the form of atropin irritation, dermatitis and conjunctivitis, shows itself in swelling of the conjunctiva and roughness of the palpebral skin. It is never accompanied by pain, but generally is attended by some itching and ocular discomfort. It is commonly observed several days after the first instillation of the drug, and may be associated with considerable thickening of the skin surface and a seromucous discharge from the eye. The mydriatic should be changed to duboisin or hyoscin, the dose reduced to the minimum, and a simple ointment applied to the roughened lids.

It occasionally happens that, after the puncture or counter-puncture, the surgeon discovers that he has inserted his knife upside down. Knapp recommends that the knife should be turned on its long axis so as to entirely reverse its position, and thus to continue the section, but the author does not see how it is possible, with a Græfe knife of average thickness, to accomplish this feat without considerable loss of vitreous and much damage to the cornea. Under these conditions it is better to withdraw the knife and wait until the original wound has healed.

Melville Black uses the usual cataract knife with a blunt point, which is inserted into the original corneal opening with the proper edge up and the section completed.

The author believes that a restricted outlet for capsular and lenticular tissues spells a dangerous traumatism, iridic hernia, secondary cataract, post-operative iritis, and other forms of a lingering convalescence. One should make a sufficient, even a generous, primary incision; and it is better to make it too large than too small.

It is better not to manipulate the lips of the wound too much in an effort to expel blood from the anterior chamber. After making a conjunctival flap, the whole eye should be gently flooded with warm boric acid solution, and the blood, in all its forms, coaxed out of the eye with "dabs" of cotton or by the use of the anterior chamber syringe. A small quantity of blood in the anterior chamber soon

becomes absorbed and does little harm except to obscure, for the time, the intraocular field of operation.

Care should be taken to use a very sharp or needle-pointed cystotome.

Wood highly recommends the concentrated, artificial, oblique illumination for the cataract operation, as well as for every procedure that requires the distinct definition of minute details of the cornea and in the anterior chamber. He prefers the Nernst light.

Prolapse of the iris is due mostly to injury to the parts or any violence that may reopen the wound. Sneezing, coughing, straining at stool, and vomiting are among these, as well as accidental blows on the dressings, finger thrusts, squeezing of the lids, sudden movement in or out of bed and undue pressure of the bandage, mask or shield, etc.

Care should be exercised in removing the dressings at the first few inspections of the eye following an extraction, because the iris may be washed or pushed into the wound by the sudden outflow of aqueous induced by the opening of the lids and the consequent disturbance of the wound edges.

Loss of vitreous most frequently attends or follows the delivery of the lens, although it may take place as soon as the opening in the eye-ball is large enough for its exit. It rarely occurs during the healing of the wound or after it has closed.

The most common immediate causes of vitreous loss are spasms of the orbicularis brought about by anything that makes the patient "squeeze up" the eye; too marked use of the fixation forceps; undue pressure on or dragging of the capsule forceps or cystotome; a prolonged or too rapid section; an unexpected upward rotation of the eye when an instrument is in the anterior chamber, and too much force employed in an attempt to expel cortical matter or capsular remnants.

Post-operative iritis is probably always associated with irritation or inflammation of the rest of the uveal tract. It varies greatly in intensity, from the simple form, due to mechanical irritation of the iris from retained lens matter, to the most pronounced cases, in which direct infection is the evident source of the inflammation.

Post-operative iridocyclitis may generally be regarded as a more pronounced form of infection than that just described, and is, as a rule, followed by loss of useful vision. Cases present, within 24 hours after the extraction, the symptoms of acute iritis soon followed by marked evidence of an intraocular inflammation, i. e., a blurred, swollen iris with exudates at its margins.

Now and then the eye becomes quiet, and some

form of iridotomy may eventually be instrumental in restoring a fair amount of sight.

The mental balance of old people is especially prone to be disturbed by putting them in a dark room of a strange hospital, to say nothing of the anxiety connected with a serious operation.

The majority of insane patients recover under sedatives and judicious moral suasion. In every case the condition of the bladder, bowels, urine, blood, etc., should receive attention.

**Suker: The Use of the Conjunctival Flap in Perforated Wounds of the Globe.** *Illinois M. J.*, 1912, xxii, 550. By Surg., Gynec. & Obst.

The conjunctival flap is made as follows: At the site of injury, or in the most immediate area, the conjunctiva is dissected loose the requisite distance beyond the lateral edges of the wound. It is next dissected loose backwards as far as it is deemed necessary, depending on the size of the wound to be covered. You either dissect the conjunctiva half-way around the corneal circumference or less. If less, then make a flap by two vertical incisions, one at either end of the limbal cut. The flap is now stretched over the lesion and fixed by sutures into the conjunctiva on the opposite side. Several sutures are necessary; in fact the flap is simply anchored, as it were, to the conjunctiva on the opposite side. The sutures pass through a fold of the conjunctiva. In this way either the whole or a portion of the cornea is covered. The sutures are removed within four or five days.

By means of this flap, a class of cases involving the cornea and adjacent sclera, which heretofore meant either a permanently irritable eye or an enucleation, are no longer sacrificed. Furthermore, a class of cases entailing either a total or partial loss of corneal substance, because of injury or disease, which heretofore necessitated enucleation or one of its substitutes, need not any longer be thus sacrificed; the same is true of extensive wounds of the sclera. The prolapsed portions in either case are amputated before covering the wound with this flap. Necessarily this mode of saving a globe is not available when the foreign body cannot be removed or extensive infection of the interior wound has already taken place.

Corneal fistulæ, which at times prove very obstinate, yield readily to this conjunctival flap.

This conjunctival flap is particularly applicable in dealing with scleral wounds. 1. It is a protection against infection. 2. It furnishes the only means by which uniform pressure is secured, thereby insuring the exact juxtaposition of the sclera, retina, and choroid. This latter is not achieved when scleral sutures are resorted to, inasmuch as they necessarily cause by their insertion a separation between choroid and sclera. When large areas of scleral tissue are sacrificed it is not advisable to attempt the wound with catgut and then put the conjunctival flap on top of this; but it is better to depend on the latter alone, which, under these

circumstances, must be rather large and thick. Furthermore, any prolapse of vitreous or uveal tract must be previously amputated.

The ever-advancing and sloughing corneal ulcer, whether of the serpiginous type or not, offers a large field for the application of this flap. If the base of the ulcer be curetted, the edges vivified and a flap brought over, being well pressed into the ulcerated areas, results well-nigh marvelous are the recompense. Should the cornea perforate in these cases, it is an impossibility for the iris to prolapse, as the anterior chamber is immediately restored. The iris, if prolapsed, is excised and freed from its attachments to the edges of the perforating wound. The progress of the ulcer is effectually checked and many times economic vision restored upon later resorting to an optical iridectomy.

This flap is especially of great service in cases of gonorrhœal ophthalmitis, with perforations of the cornea and danger of its being lost because of the various prolapses of its contents. In such cases the eye must be carefully manipulated and the flap so placed that drainage is not altogether thwarted. If in these conditions the anterior chamber be filled with Haab's iodoform rods or simple iodoform powder, you will be surprised at the satisfactory results.

Goldzieher and Kuhnt have even used this flap for the protection of the cornea in gonorrhœal ophthalmia after perforation has taken place and to prevent the extensive ingress of intraocular infection. I myself have employed this flap in several cases of this kind.

This conjunctival flap may at times be of service in combating extensive central corneal concities. Instead of cauterizing according to the Elsching method, the apex is excised and the flap brought over. This is advised only for aggravated cases. Much more support is offered to the cornea in this manner than by any other method, and the resultant acuity of vision is at least equivalent if not greater. An optical iridectomy is in most instances obligatory after any measure intended to overcome the conicity of or staphyloma. If this flap is not too broad or thick and has been properly placed, the optical iridectomy need not be any larger than for the other conditions demanding such an iridectomy.

Rarely, if ever, does this flap slough or ulcerate. If it does, then the causative conditions underlying it are general rather than local. For, as far as local conditions, such as infecting bacteria, tension in flap, undue pressure, etc., are concerned, they can be controlled. Again, it is advisable to have at least one or two blood-vessels coursing uninterruptedly to the very apex of the flap. With the blood supply assured, and the flap of requisite size, the untoward results are greatly minimized.

If the flap properly overlaps the involved area and if the edges of the flap are not allowed to roll up on themselves, particularly so on the under surface, the operation will not be a failure. So also does the thickness of the flap play an important rôle; this

depends largely on circumstances and conditions to be achieved. Usually a flap that is thin at its apex and gradually increasing in thickness toward the base is the desirable one. Then, too, the under surface of the flap must be free from hæmorrhages or clots, and the part to which it is applied must likewise be in a similar condition. In other words, the exact principles as followed for skin grafting are to be observed. The flap must be at all times fairly well stretched to avoid any puckering or rolling up of the edges, and the eye must be so firmly bandaged as to insure practical immobility.

To briefly summarize, this flap is applicable in:

1. Extensive wounds of the cornea and sclera, with or without loss of substance in either, or prolapse of ocular contents.
2. Corneal fistulæ.
3. Serpiginous or perforating corneal ulcers.
4. Corneal or scleral staphyloma.
5. Prolapses of ocular contents
6. Hernia of the iris.
7. Extensive conical cornea.
8. Untoward conditions in wounds following cataract extraction and the like.
9. As a protection for the cornea in conditions similar to gonorrhœal ophthalmia, in which extensive perforations and resulting intraocular infections are liable.

**Parsons: The Treatment of Unilateral Cataract.**

*Lancet*, 1912, clxxxiii, 1289.

By Surg., Gynec. & Obst.

Parsons discusses the advantages and disadvantages to the patient of having a unilateral cataract operated when the other eye has sufficient vision so that he can carry out his ordinary duties, and gives it as a general rule that the indication is to operate such cases in the young, but not to do so in the adult or aged.

He believes in repeated needlings in the young, using every precaution to prevent excessive swelling of the lens matter, and the necessity of evacuating the contents of the anterior chamber, as his experience as a pathologist has taught him that the few cases of needling which go wrong do so as a result of curette evacuation.

The indications for operation on the aged are when the field of vision is of prime importance, or the appearance of the eye prevents the patient from earning a living; and, from a technical standpoint, the appearance of signs of hypermaturity.

C. G. DARLING.

**Wolf: Septicæmia of Otic Origin.** *Ztschr. f. Ohrenheilk.*, 1912, lxvi, Nov.

By Surg., Gynec. & Obst.

Wolf reports in detail 22 cases of septicæmia of otic origin from Kümmel's practice. These 22 cases include 17 in which thrombophlebitis was present. In spite of this complication no death occurred; on the whole the prognosis was favorable. The treatment recommended consists chiefly in the drainage of the infected focus, be this infection of

the middle ear, an extradural abscess, or thrombophlebitis of either the lateral or the jugular sinus. In these cases the author believes that ligation of the jugular vein is only allowable in such cases as show a lesion involving this vein. M. C. PINCOFFS.

**Crowe: An Aid for the Diagnosis of Conditions Associated with an Obstruction to the Outflow of Blood from the Brain; with Special Reference to Sinus Thrombosis of Otic Origin.** *Bull. Johns Hopkins Hosp.*, 1912, xxiii, 321.

By Surg., Gynec. & Obst.

The author first describes the two main pathways by which the venous blood is returned from the brain by the symmetrically placed lateral sinuses, jugular bulbs, and internal jugular veins, as well as the collateral circulation in case of obstruction to the outflow of blood through either of these main pathways, and he further illustrates this by a diagram showing the intracranial and extracranial venous systems and their anastomotic vessels. In the beginning he states that if there is sufficient obstruction to the outflow of blood through the intracranial system, these anastomotic vessels will become engorged with blood. At least two of these vessels, the supraorbital and ophthalmic veins, can be seen on the surface of the skin. The retinal veins are the only branches of the intracranial venous system which cannot be directly observed. These vessels, however, as he states, may be studied very conveniently with the aid of an electric ophthalmoscope.

Stasis in the intracranial venous system, as may be produced by compressing both internal jugular veins, will immediately manifest itself by a dilatation of the veins of the fundi. As the stasis increases the anastomotic vessels will also begin to dilate. If the pressure on the right jugular vein is suddenly released but that on the left is still maintained, or vice versa, it will be observed that the distended veins in the fundi and in the skin immediately collapse and return to their normal size. This is to be explained by the fact that in normal individuals the connections between the two internal jugulars are so free that one side alone may be occluded without producing any marked evidence of stasis. If it were otherwise, one would expect to find evidence of stasis in the eye grounds in every case of sinus thrombosis. But such is not the case.

The author's experience has led him to conclude that any acute obstruction to the outflow of blood through the sigmoid sinus, jugular bulb, or internal jugular vein on one side may be diagnosed by means of his test. This test is based on purely mechanical principles.

From the examination of 50 normal individuals the author has arrived at the following conclusions:

1. No appreciable evidence of stasis is seen in the retinal or supraorbital veins when one internal jugular is compressed with the finger.
2. Pressure on both internal jugular veins at the same time produces a marked dilatation of the veins of the fundi and of the anastomotic vessels connect-

ing the intracranial with the extracranial venous circulation.

3. When the pressure is suddenly released on **one** side while it is maintained on the other, the engorged veins of the anastomotic system and the fundi will immediately empty.

Crowe states that if the results in any individual case differ markedly from those above, it must be concluded that there is either an anomaly of the intracranial venous circulation, or some pathological condition which is obstructing the outflow of blood from the brain.

Among the clinical conditions which may be associated with an obstruction to the outflow of blood from the brain, the formation of a thrombus in the sigmoid sinus, secondary to an infection of the middle ear, is by far the most frequent and the most important. Sinus thrombosis appears with equal frequency as a complication of acute and chronic cases of otitis media, and not infrequently the diagnosis offers great difficulty. Because of the relative anatomical position of the jugular bulb to the middle ear, it is possible to have a primary bulb thrombosis, with the sigmoid and transverse sinuses normal in appearance; and the condition may not be recognized, even at an exploratory operation. One of the cardinal symptoms of sinus thrombosis is a remittent fever with chills; due to the serious nature of the malady, however, it is desirable to know at an early stage of the disease whether the symptoms are really due to a sinus thrombosis or to other conditions, such as angina, pneumonia, malaria, the initial stage of one of the infectious diseases of children, meningitis, or brain abscess.

As the author has already stated, no normal person has as yet been observed in whom the compression of one jugular alone produced any marked degree of stasis in the retinal veins. On the other hand, in all normal individuals a quite evident dilatation of these vessels results when simultaneous pressure is made on both sides of the neck. Since a sinus thrombosis offers a more or less complete obstruction to the outflow of blood into the internal jugular vein on the same side, it naturally follows that in such cases there will be unmistakable evidence of stasis as a result of compressing with the finger the internal jugular vein on the opposite side. When it is possible to examine a patient before the onset of complications and find that both jugular veins are patent, and at a later period, associated with an elevation of temperature, to find that the blood is not passing down one side of the neck as freely as down the other, the author states that his observations have led him to believe that this sign may be taken as positive evidence that there is a sinus thrombosis.

GEO. E. BEILBY.

**Oppenheimer: Pro and Con of Maintenance of the Retroauricular Opening after the Radical Mastoid Operation.** *Med. Rec.*, 1912, lxxxii, 975.  
By Surg., Gynec. & Obst.

The main necessity for the maintenance of the posterior opening is in those instances of diffuse

cholesteatoma of the mastoid region where it is seemingly impossible at times to remove the proliferating epithelial masses in their entirety, since they are so intimately associated with the microscopic recesses in the osseous tissue.

The time when the posterior opening should be closed in such cases of cholesteatoma where a so-called permanent opening has been maintained will depend entirely upon the condition of the epithelial lining of the eviscerated cavity, for should the least trace of the affection be in evidence, it will be apparent that to close the wound, whether it is of several months' or several years' duration, in the presence of the heaping up of epithelial masses, would endanger the entire result of the original operation. It is essential, therefore, in determining when such surgical procedures should be adopted, that all traces of cholesteatomata or diseased tissues, whether osseous or otherwise, should have entirely disappeared and remained absent for several months at least before such measure can be applied.

In a series of 83 radical operations, the posterior opening was maintained in 5. These cases recovered with an auditory canal larger than before the operation, which permitted free inspection and treatment of every portion of the large osseous cavity. Because of the disfigurement caused by a large opening behind the auricle, this should be closed as soon as is consistent with the cessation of pathological changes within the osseous cavity.

At the same time, the cavity should be under observation for a sufficient length of time for one to be convinced that there is not the slightest evidence of heaping up of epithelial masses in any of its parts, and that the slight exfoliation that often takes place can be as easily removed from the enlarged meatus as it can from the post-auricular opening.

**Kabatschnik: A New Test for Hearing** (Eine neue Hörprüfungsmethode). *Monatschr. f. Ohrenh., Laryngol. u. Rhinol.*, 1912, xlii, 1413.

By Surg., Gynec. & Obst.

Kabatschnik describes a new hearing test in which he uses the external auditory canal for bone conduction instead of the mastoid process. For this purpose the external auditory meatus is closed with the finger, or the tragus is pressed by the finger against the aural entrance and the handle of a tuning fork placed firmly upon the finger nail. If a tuning fork is held near the open ear and removed the moment the sound ceases, then reapplied in the described manner upon the finger nail, the sound of the fork will again be heard, although it has not been struck a second time. If the test is positive, we have to deal with an obstruction of the sound conduction; if negative, we have to deal with an affection of the sound-perception apparatus. By this method bone conduction from the external auditory meatus of the diseased side into the sound ear is hardly possible, and should be a good method of exposing patients.

## SURGERY OF THE NOSE, THROAT, AND MOUTH

**Peugniez and Labouré: Nasopharyngeal Fibromata Treated by Paralaternal Nasal Rhinotomy** (Fibromes nasopharyngiens: Traitement par la rhinotomie paralatéro-nasale). *Arch. internat. d. Laryngol.*, 1912, xxxiv, 571. By Journal de Chirurgie.

Nasal fibromata at times originate from the fibrous tissue situated between the nasal and odontoid processes, often from the ethmoid, sphenoid, and ptergoid processes and the vomer. These tumors are of nasal origin. The examination of the nose and rhinopharynx must be conducted with great gentleness, thereby minimizing the danger of possible hemorrhage. First, the anterior nares are mopped with adrenalin solution and then examined with the rhinoscope. This is followed by posterior rhinoscopy and, finally, a digital examination. If the tumor be well pediculated and can be seized with a loop or spread out upon the rhinopharynx and disimplanted by the Doyen or Escat method, it can be removed by the natural passages.

The artificial routes of extirpation are three in number: the palatine, the anterior nasal, and the lateronasal. The lateronasal route (Moure et Sebileau) is the method of choice. It includes the following steps: first, an incision extending in the nasolabial groove from the internal angle of the eye to the middle of the superior lip. With the periosteotome, the edges of the wound are separated from the underlying tissues. The nasal notch is resected from the nasal process of the superior maxillary bone and from the nasal bone. The nasal fossa is opened after incision of the mucosa. If one is cramped for space, the turbinated bones can be resected, also the internal wall of the maxillary sinus. The tumor is extirpated. The fibroma is seized with forceps, and the operator twists and pulls. Hemorrhage is controlled by compression or by the thermo-cautery.

Peugniez and Labouré state that the operation by Moure is the operation of choice for malignant tumors of the nasal fossa, but for tumors of the nasal pharynx, the Faure operation. Faure is contented with resecting the lower lateral portion of the nasal notch, removing the internal wall of the sinus and, if necessary, a part of the posterior portion of the nasal septum.

G. LAURENS.

**Haskin: The Relief of Nasal Obstruction by Orthodontia: a Plea for Early Recognition and Correction of Faulty Maxillary Development.** *Laryngoscope*, 1912, xxii, 1327.

By Surg., Gynec. & Obst.

The author urges that physicians watch for mouth breathing in all children from birth. The loss of the moulding effect of the tongue and facial muscles is a great one and hard to restore. As a result, the devel-

opment of the whole face suffers. He calls special attention to orthodontic measures in removing the cause of mouth breathing. If, after the removal of adenoids, the patient remains a mouth breather, the nasal space is too small. The nasal septum in these cases is found to be bowed. The usual operation has been the straightening of the septum and removal of a part of the turbinate body. The author recommends rapid spreading of the suture of the upper maxilla. It should be done early, even before the eruption of the permanent incisors, which usually occurs between the seventh and eighth years. Besides giving greater nasal space, it prevents the impaction of the permanent teeth and better occlusion results. The arch is expanded anteriorly and laterally, making use of the deciduous teeth. The mechanism resulting from rapid spreading of the maxilla is as follows: The nasal septum straightens, at least in young children. Thus is due to the actual separation of the suture which allows the resiliency of the septum to force itself down into the space thus made. The lengthening of the suture allows room for the vomer to extend forward to its full length as planned for that particular skull, thus overcoming the anteroposterior vertical bowing that is observed in so many cases.

When the straightening does take place the septum, which is thus forced into the fissure created by the separation, helps to fill in the space and to maintain the expansion. There is no tilting of the arch or the teeth themselves, as the pressure is so applied as to move the arch en masse. After separation there is little change in the direction of the divided surfaces. Accompanying X-ray photographs clearly illustrate the separation of the suture. Whether there is actual lowering of the arch is a mooted question. There may be no actual lowering at the time of separation, but the normal development of the whole face as a result of the restoration of nasal breathing and the freeing of dental impactions, especially if done early in life, will eventually bring about an actual lowering of the roof because of the downward growth of the whole face. The internasal space is widened from 3 to 6 mm. The author presents a theory as to one other causal factor in nasal obstruction. The vomer as planned for the skull, in growing downward and forward, tries to grow to its full length, but the anterior position has to articulate with a much shorter line than intended by nature, and in pushing itself forward becomes bowed vertically. The lengthening of the arch by rapid spreading gives room for the vomer to lengthen and straighten out the vertical bowing. Dentists have noted marked improvement in the general health of patients after rapid spreading, but have not accounted for it on

the basis of greater nasal space. If adenoids are present, these should also be removed as is usual. The author reports six cases which have been watched by him for a number of years.

E. L. CORNELL.

**Glogau: Nasal Deformity Corrected by Autoimplantation of the Septal Cartilage.** *N. Y. M. J.*, 1912, xcvi, 955.

By Surg., Gynec. & Obst.

In a case of traumatic saddle nose and nasal obstruction due to fracture of the septum the external deformity was corrected by implanting a part of the cartilage removed intranasally while performing a submucous resection of the septum. The cartilage was covered by its perichondrium, from which, by means of a Bier's skin grafting knife, the superficial epithelial layers were removed. Through a small transverse incision the subcutaneous tissue of the deformity was separated along the dorsum of the nose down to the tip. A sharp spoon was then introduced into this pocket and the cartilage at the tip of the nose curetted; the cartilage, covered by its perichondrium, was then inserted and the incision closed. The inserted cartilage became permanently attached and the external deformity was corrected. By the submucous resection, nasal breathing was restored to normal. The operation was performed under local anæsthesia. The author's method is described in detail.

**Wildenberg: Two Cases of Laryngo-Pharyngeal Œsophagectomy** (Deux cas de laryngo-pharyngo-œsophagectomie). *Ann. d. Soc. d. Méd. d'Anvers*, 1912, lxxiv, 133.

By Journal de Chirurgie.

The author presents two male patients operated upon—one recently, the other two years ago—for laryngo-pharyngo-œsophageal cancer, by a method which he had devised and which is executed in the following way. The operation is practiced under chloroform anæsthesia and in one step. Median cutaneous incision extending from the hyoid bone to the superior sternal notch. Then a double transverse incision extending from one sterno-cleido-mastoid to the other at the lower level of the median incision. Removal on the right side of a glandular mass extending into the pharyngo-maxillary fossa. The tumor was intimately adherent above to the external carotid and the jugular vein; below to the tenth nerve. It was difficult to avoid injuring the contiguous organs. After mobilization of the larynx and the pharynx and exposure of the lower limit of the tumor involving the œsophagus as far as the posterior mediastinum, a compress was placed in the mediastinum. The thyrohyoid membrane was incised. The pharynx was divided 2 cm. above the tumor. The larynx and pharynx were detached from the vertebral column, and the œsophagus isolated from the trachea. The trachea was divided at the level of the second tracheal ring and fixed to the skin by means of sutures forming a tracheal stoma. The œsophagus was divided and sutured to the skin for some distance so as to form an œsophageal stoma

above the trachea. The day after the operation the patient ceased to cough, felt comfortable, and was hungry. He was fed by the aid of an œsophageal bougie. Fifteen days after the operation he was fed by Glück's funnel-tube method. This method does not differ from natural feeding. The patient can masticate, taste, insalivate and swallow his food as in the normal state.

One should wait six months before creating a new pharynx and œsophagus. This period is essential to allow the skin to recover its vitality and to detect recurrence. A recurrence renders useless attempts at reconstruction of the pharynx; illustrations accompany the article. The pharynx will have as a posterior wall skin placed upon the vertebral column. The pharynx and œsophagus will be cutaneous. The patient can dispense with his tracheal cannula. With a collar the infirmity can be concealed. As to speech, if the patients are young, they can with sufficient application succeed in securing intelligent speech, with a voice which at times resembles the natural voice. One patient, a man 71 years old, operated upon two years ago, is well and shows no signs of recurrence.

J. DUMONT.

**Hofmann: Transverse Superhyoid Pharyngotomy.** *Beitr. z. klin. Chir.*, 1912, lxxxi, Nov.

By Surg., Gynec. & Obst.

This operation, which has been but little used, was first performed by Von Hacker in 1904, for the removal of a sarcoma at the base of the tongue. Hofmann reports 2 cases in which he was enabled by this means to remove a tumor of the nasopharynx. The first case was that of a young man of 17 years in whom nasal respiration was completely suppressed by a malignant tumor of the nasopharynx. Pharyngeal palpation showed that the tumor filled the vault of the pharynx. Hofmann made an incision 12 cm. long, parallel to and a finger's breadth above the hyoid bone. He then cut through the myohyoid, geniohyoid and genioglossal muscles, removed the submaxillary glands, which were enlarged, and pushed aside the hypoglossal nerves. He was thus able to enter the pharynx without producing hæmorrhage into the interior. Anæsthesia was now continued by a laryngeal cannula. With deep retractors excellent access was thus obtained to the nasopharynx. Unfortunately, the tumor was too far advanced to allow complete removal. The pharyngotomy incision was closed with drainage only at the two ends. The wound healed perfectly. Death followed two months later, as the result of local recurrence.

In the second case in a boy of 12 years, a large, double-lobed tumor completely filled the vault of the pharynx. The same operation as that described above gave very good access to the tumor, which was removed while in plain view. Hæmostasis by semicautey and sponge compression was very much facilitated. Complete closure of the operative wound followed. Although the operation was performed two years ago, there has been no recurrence.

Hofmann concludes that this operation gives an excellent exposure, not only of the base of the tongue and the larynx, but also of the nasopharyngeal vault.

M. C. PINCOFFS.

**Gault: Four Cases of Pharyngeal Tumors Removed by the Buccal Route** (Quatre cas de tumeurs du pharynx opérées par la voie buccale). *Arch. intern. d. Laryn., d'Otol. e. d. Rhinol.*, 1912, xxxiv, No. 2. By Journal de Chirurgie.

The first patient, 58 years old, had a non-mobile cherry-sized tumor. It was not definitely limited. It seemed to form part of the posterior surface of the soft palate. No enlarged lymphatic glands. Total removal of the left half of the soft palate. Suture of the velum palate to opposite posterior pillar. Two years after, no recurrence. No histologic examination.

The second patient, 73 years old, had a vegetating ulcer having the appearance of an epithelioma and occupying the margin and posterior part of the soft palate as well as the anterior pillar. No enlarged lymphatic glands. Total excision of the right half of the soft palate and of the anterior fascial pillar. Two years after, no recurrence. No histologic examination.

The third patient, 33 years old, had a whitish hard walnut-sized tumor occupying the entire right tonsillar fossa. Histological examination showed lymphosarcoma. No enlarged lymphatic glands. Vertical incision upon the anterior pillar. Enucleation with scissors. Four months after, recurrence; new excision; 18 months after, no recurrence.

The fourth patient, 50 years old, had a tumor of the right lateral pharyngeal wall involving the pillars, soft palate, tonsil and base of the tongue. The tumor was mobile, there were no enlarged lymphatic glands. Ablation by the buccal route of all the involved region. No histological examination.

GEORGES LAURENS.

**Tousey: X-ray Measurement of the Permanent Teeth Before Eruption to Provide for Early Regulation of the Dental Arch.** *Laryngoscope*, 1912, xxii, 1300. By Surg., Gynec. & Obst.

In making such an examination, the actual width of the temporary incisors is measured with a caliper square graduated in hundredths of an inch. A wax impression is made, showing the curve formed by the cutting edge of the incisors, the cusp of the canine, and the buccal cusps of the molars. Radiographs are made from which the width of the unerupted central incisors is measured.

The curve that should be formed by permanent teeth of that size is calculated by an established mathematical formula and is drawn in its actual size for the guidance of the orthodontist. Measurements of various cases extending over seven years show: 1. The size of the temporary teeth bears no relation to that of the permanent teeth, and the fact that the temporary teeth form a beautiful arch is no evidence that this is the right curve for the

permanent teeth. 2. Unaided nature reproduces in the permanent arch the curve formed by the temporary teeth, whether right or wrong. 3. If the curve is too small for the permanent teeth, the latter are delayed in eruption or their eruption is entirely prevented. They come through in bad position, causing disfigurement, neuralgic pain, and a variety of nervous symptoms, together with all the bad effects of too narrow and hence too vaulted an arch, crumpling up the nasal septum into deviations and spurs. These last conditions occlude the nasal passages, and produce mouth breathing and adenoid and tonsillar disease. 4. These X-ray measurements made of the permanent teeth at the age of 5 or 6 years have in the cases of seven children been compared with the actual measurements five or six years later and found to be exact within  $\frac{1}{16}$  inch. 5. Regulation of the temporary teeth to the proper curvature is an easy matter for the orthodontist, and is not painful for the child.

**Ketchum: Treatment by the Orthodontist Supplementing that by the Rhinologist.** *Laryngoscope*, 1912, xxii, 1286. By Surg., Gynec. & Obst.

The essayist, after explaining the effect of adenoid tissue and consequent mouth breathing upon the growth of the maxillary bones, the mandible, and the involved muscles, says: "The evidence which is forced upon the orthodontist is that while the adenoid operation is quite necessary, it alone is not often a cure for mouth breathing, except in younger patients where the cause has been operative but a short time and has not caused malformation of the bones and abnormal development of the muscles involved."

He divides the cases of persistent mouth breathing, after adenoid operations, into two classes. First, those in which there is ample nasal space after the removal of adenoids but in which the protrusion of the upper anterior teeth and the retrusion of the lower teeth make it impossible for the patient to close the lips. By placing the teeth in normal occlusion the orthodontist makes possible the closure of the lips. Second, those cases in which there has been an arrest of development of the maxillary bones with a narrow dental arch, narrow nose cavity, deflected septum, etc. Through gentle pressure applied to the teeth in such a way as to transmit the stimulation to the maxillary bones, the maxillary dental arch may be widened to normal size and the involved bones stimulated in development so that the nose cavity may increase in size. Deflected septums often straighten; normal breathing is often the result. The essayist used for illustration such a case in which the nose cavity developed from about one half normal size to three fourths normal, in nine months' time; the deflected septum became nearly straight. Three years after orthodontic treatment examination showed the nose cavity to be fully normal and the septum straight.

The essayist also says: "The orthodontist cannot

hope for permanent success in a case where mouth breathing has caused malocclusion of the teeth unless the rhinologist remove the primary cause of the mouth breathing.

"To be of the greatest benefit to humanity, the rhinologist and orthodontist must work together, for the work of one often supplements that of the other."

**Brown: The Speech Relation of Cleft Palate Operation.** *J. Am. M. Ass.*, 1912, li, 1440.

By Surg., Gynec. & Obst.

The surgical closure of cleft palate cannot be expected to overcome speech defects, the underlying cause of which is some factor other than those which concern the psychologic action of the parts influenced by the anatomical defects.

In the correction of speech defects by post-operative speech training, the improvement will be accelerated in proportion as the result of our surgical operations in both uranoplasty and staphylorrhaphy more nearly approximate the normal in the reproduction of bone and soft tissue in the palatal region. With this end in view the author conducted a series of experiments upon dogs at the Parke-Davis Laboratory for Pathologic Research, assisted by Dr. N. S. Ferry of that laboratory, and endeavored to ascertain exactly what measure of normal development might be secured by the methods of urano-staphylorrhaphy that are chiefly employed.

The palates of a series of pups two months old were compressed and fixed in this position with wires passed above the palate and clamped upon each side of the upper jaw, after the form of operation recommended for young infants by Garretson and Brophy. Sections through the heads of pups at approximately six months old showed almost complete nasal stenosis, deflected nasal septum, greatly enlarged maxillary sinuses, marked disarrangement in the occlusion of the teeth. They developed a high degree of susceptibility to infection, and were more or less affected by nasal or pneumonic disease. Nervous and trophic changes seemed to be so interfered with that they were only half as large as the control pup of the same age. This was exactly in accordance with the deformed mouths, noses, and faces that may be seen in children and young persons who have the palates closed in early infancy by direct compression according to this method. The best results in health, speech, and personal appearance are impossible for individuals so treated.

Fissures were cut in the palates of pups, and these were closed according to the following methods: In some, flaps were inverted by making incisions along the alveolar border on one side, raising the mucoperiosteal border from the external border toward the center, reversing it, sliding the border under a mucoperiosteal flap raised by separation along the border of the fissure on the opposite side and sutured in this position to follow the methods of Lane and Ferguson. In others, the fissures were

closed by freeing the anterior end of a mucoperiosteal flap with a broad posterior pedicle, reversing and suturing it under a flap similarly raised upon the opposite side, which was left with the mucous membrane in its normal position and sutured as in the Davies-Colley operation. There was no evidence whatever of bone reconstruction in any of these pups. It therefore seems reasonable to conclude that this type of operation is objectionable, because through the disturbance of the natural anatomical arrangement of the tissues, occasioned by turning the periosteum upside-down, bone growth does not take place as it might if the periosteal surfaces were merely moved across and brought together in their natural position. The thickened fibrous tissue which forms across the fissure cannot have the firm resounding properties of a bony palate, nor will it have the fixed resistance to the attachments of the muscles which is necessary for proper speech function.

The palates of pups closed by a modification of the well known Van Langenbeck operation — with the mucoperiosteum raised from the border of the fissure, incisions in line with the teeth upon each side, flaps raised and sutured in the center by sliding them across the bone surface without altering the normal relation of the mucous membrane and the periosteum — seem to show conditions that were favorable to bone growth across the palate fissure.

Clinical experience and the skiagraphs of the mouths of patients whose fissures he had closed in the region of the hard palate several years previously indicate that bone does form in this region when the palate tissues are treated in this way.

The conclusions based upon the results thus far accomplished in these experiments are summarized as follows:

1. The application of compressive force sufficient to cause traumatic injury or disarrangement of the developing teeth or surrounding jaw structures, or the application of clamps of any kind which may inhibit growth across the palate in infant harelip and cleft palate cases, is unnecessary even in the most difficult types of these affections, and cannot fail to do permanent harm to the future development of the nose, palate, teeth, jaws, face, and pharynx, and thus militate against the acquirement of correct speech.

2. Expedients such as the carrying in of external tissue from the lip or skin, or the turning upside-down of the mucoperiosteum for the purpose of bridging the palate fissure, are not required, because the same results can be accomplished otherwise in practically all cases, and the resulting scar tissue formation with loss of bone development renders the best speech results impossible.

3. Notwithstanding such unavoidable disadvantages and difficulties as may be encountered, the effort from first to last in the treatment of all cases of harelip and cleft palate should be to restore the parts in such manner that in every possible way the normal growth and development may be favored.

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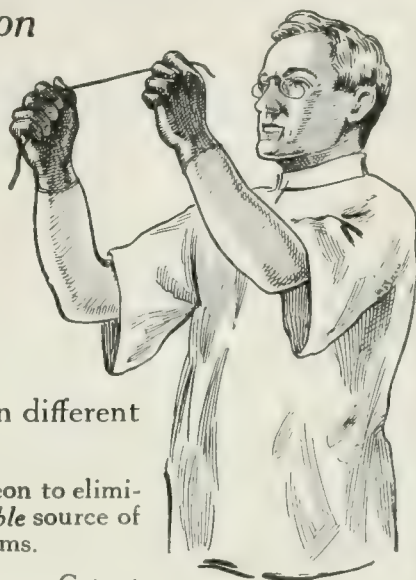
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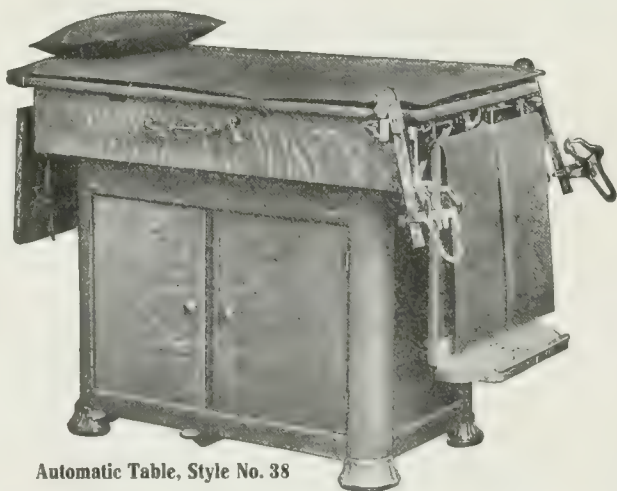
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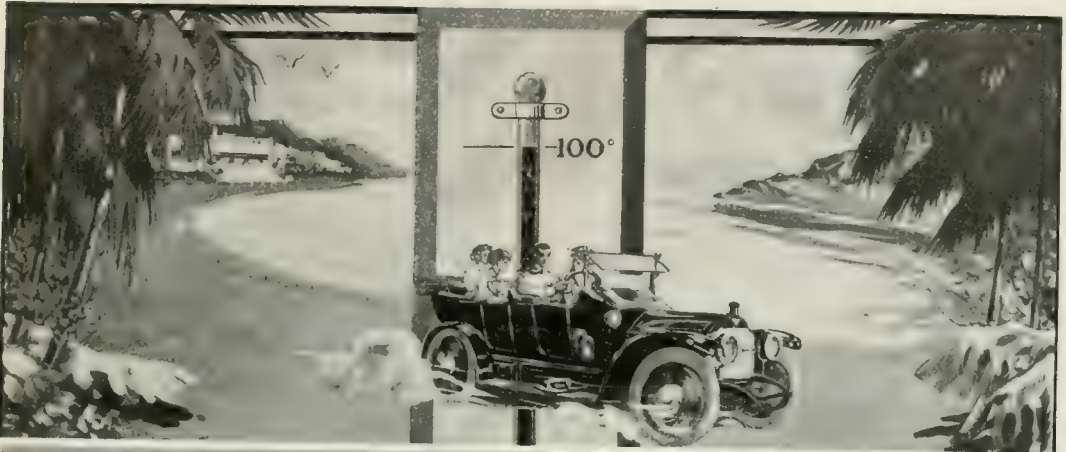
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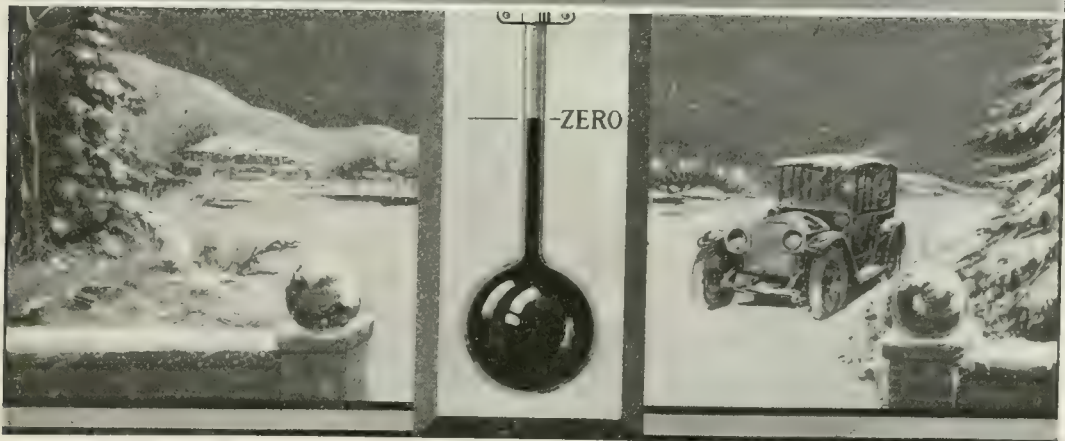
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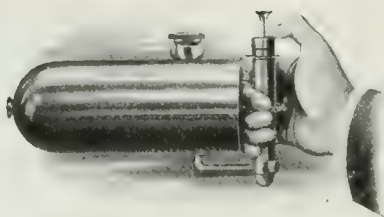
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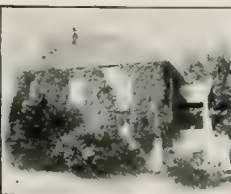
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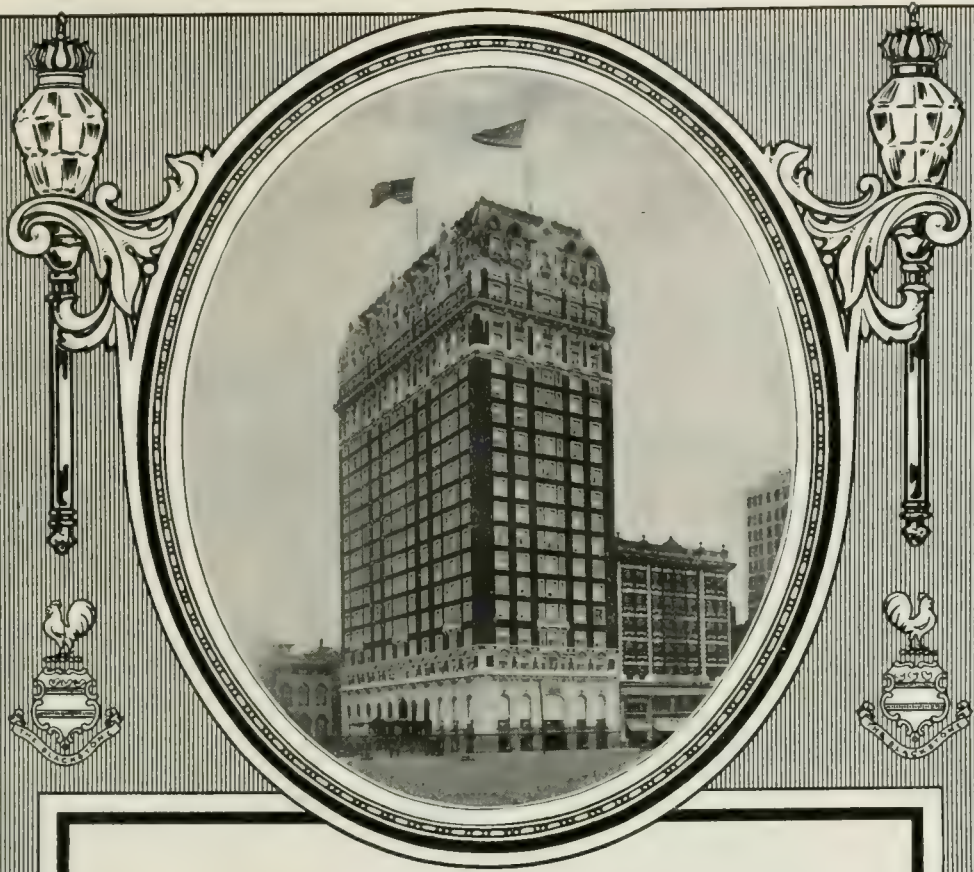
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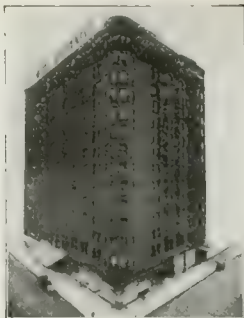
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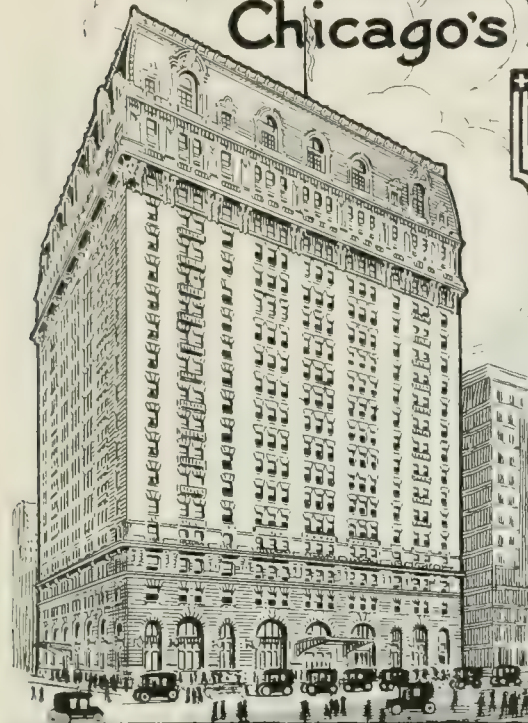
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